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# AMERICAN BEE JOURNAL



**Hon. Geo. E. Hilton,**  
President National Bee-Keepers' Association  
(See page 7)



# American Bee Journal



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- 2d.—To protect and defend its members in their lawful rights.
- 3d.—To enforce laws against the adulteration of honey.

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### An Invitation to Readers

As the time of longer evenings is again arriving, we would like to invite our readers to send in their reports of the season of 1907 with the bees.

It may be, also, that some have been trying experiments, or have had some things to develop that would be of interest to all. If so, we would like to have such write out their experiences for publication, and send them in. No doubt what you have read in the Ameri-

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can Bee Journal has been a great help to you, so why not you add your mite to the general fund of information about bees?

It may often happen that your way of doing things may seem very simple to you and of not sufficient importance to describe in print. And yet, such may be of great interest and help to others. Why not let us have it for the columns of the old American Bee Journal?



# American Bee Journal

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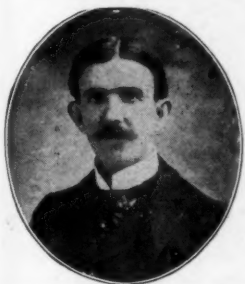


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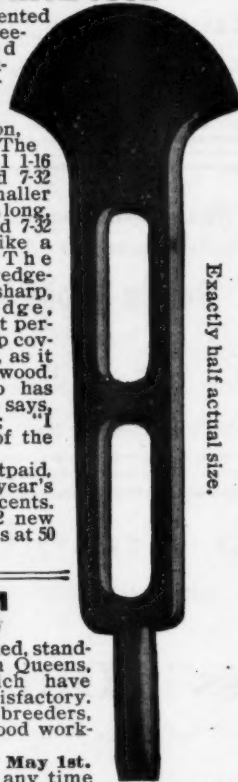
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GEORGE W. YORK, Editor

CHICAGO, ILL., JANUARY, 1908

Vol XLVIII—No. 1



### Pure Air in the Bee-Cellar

Whatever the pains taken to ventilate a hive in the cellar, what can it amount to if the cellar itself be not well ventilated? If the air in the cellar be foul, how can anything but foul air get into the hive? Where a very few colonies are kept in a cellar, the problem of pure air would not be a difficult one if it were not that the bees are put in the same cellar in which are also placed the family supply of vegetables. Neither would the presence of vegetables be a serious matter if those vegetables were always in such nice and fresh condition as to be approved by the health officer. Unfortunately this is not always the case, especially where there is no health officer to interfere. The important thing is to keep a close supervision over the vegetables, frequently sorting them over and removing any and all that are no longer good. Instead of that, it is too often the case that everything is left till the spring cleaning, when bushels of rotten, stinking stuff are thrown out that ought never to have been allowed to remain. A single rotten head of cabbage will foul the air in the cellar more than the bees. For their sake, even if you care nothing for the health and lives of the people that live over it, use your eyes and your nose, and see that the air in the cellar has a fighting chance to be pure and sweet.

### Loss in Feeding Bees

O. S. Rexford says this in *Gleanings in Bee Culture*:

"Friday evening, Oct. 4, I set a colony of bees on scales, weighed them carefully, and then fed them 8 pounds of granulated sugar dissolved in 7 pounds of water. I fed in a Miller feeder. The feed was all taken in 24 hours. The

shrinkage in weight went on rapidly for about two days, and then slowly for several days till finally, Oct. 13, hive and bees weighed only 4 pounds more than before I fed.

"There was a young queen in the hive, but brood-rearing had stopped several days before, and there was no brood except what had advanced beyond the feeding stage. I looked over the frames yesterday, but saw no eggs or young brood.

"If this were the only experiment I had ever made I should not consider it important enough to publish; but I have made many in the last 15 or 18 years, and always with similar results, all seeming to show that bees do consume a large percent of sugar as honey fed them for winter use, or to store in sections—in this trial, 60 percent—when I know that if not fed, one pound would have been sufficient for the whole month of October."

Unless there be something exceptional in the experience of Mr. Rexford, some of our ideas with regard to feeding need revising. In any case, is it advisable, so late as Oct. 4, to feed syrup which is seven-fifteenths water?

### Testing Honey as to Ripeness

Much is said from time to time as to the unwisdom of putting upon the market honey not thoroughly ripened. But how is the novice to tell whether his honey is ripe or not? Upon this point little or nothing has been said, and so is it any wonder that many a beginner does himself and other bee-keepers a mischief by putting unfit stuff on the market, only learning by painful experience to make some sort of a guess as to ripeness? Mr. I. Hopkins, the efficient government apiarist of New Zealand, in

an address before a bee-convention reported in the *New Zealand Farmer, Stock and Station Journal*, gave something very specific upon the subject, and it would be a good thing if every producer of extracted honey on this side the globe would follow the advice of Mr. Hopkins, get a hydrometer, and never put upon the market a pound of honey testing below 1.400.

Mr. Hopkins made a great many tests, finding that below a certain density honey would take on fermentation, and above that it would keep all right. He said:

"The conclusions I have arrived at over the tests are, that all those registering 1.410 and upwards were thoroughly ripe, and would keep for any length of time under ordinary conditions. Those between 1.400 and 1.410, if not so ripe, would keep for a long time; but all those registering below 1.400 seemed to me to be doubtful in this respect. I shall keep specimens of each as you see them for testing by time. Now, what I wish you all to do is to obtain the apparatus yourselves, that is, each individual, and try for yourselves, so that you may learn to know for a certainty when your honey is ripe, and not depend upon guesswork. The appliances, hydrometer, glass, and thermometer cost only about \$1.87 in all, so that they are within the reach of all of you; at all events the matter is one of so much importance that if they cost six times as much you ought to have them. Be sure, also, when making tests, to record them all for future reference, or they will be of very little use to you. Make tests of the honey directly it is extracted, and on each day afterward."

### Light in the Bee Cellar.

A bee-cellar must be kept dark; that's the rule. It may be a question whether there should not be more exceptions to the rule than are generally allowed. Other things being equal, would bees not do better in a light than in a dark cellar? A man kept in the dark can not have the same vigor as one daily exposed to the full light of the sun. If the light is so good for a man, why not for a bee?

Why should a cellar be kept dark? The answer, no doubt, will be that if the

# American Bee Journal

light be allowed in the cellar the bees will leave the hive, and a bee that leaves the hive in a cellar is generally a dead bee. But is it true, that light will always make a bee desert a hive? Recall what may have been observed any fall. Suppose the temperature was 50 degrees Nov. 1, and that the bees outdoors had a good time flying, and then suppose the next day the thermometer never goes higher than it would be in the cellar, say 45 degrees. Never a bee leaves the hive. Doesn't need to; doesn't want to. And yet the bee-keeper who may have observed this a dozen of times, if his bees are in the cellar, and at the same temperature, on that second day of November, will feel it an absolute necessity that the cellar be absolutely dark.

It can not be denied that when bees have been confined for a considerable time in the cellar, and feel the need of a cleansing flight, the admission of light will cause many to leave the hive when darkness would oblige them to remain. But in the early part of winter, when there comes a warm spell, making it troublesome to keep the cellar properly ventilated, some who insist on keeping the cellar closed for fear of the admission of light, might be surprised to find how quiet the bees will remain with a door or window open, *provided* that the air in the cellar be all right, and that opening of door or window may be just the thing needed to make and keep the air all right.

Let each one experiment for himself, and not be too prompt to condemn the bees to darkness. If a warm spell comes, and the cellar needs cooling off, open doors and windows as soon as it grows dark in the evening, and do not darken up next day till the bees show they are disturbed by the light.

This matter is of special importance to those who have furnaces in cellars. One man with a furnace in his cellar says he does not find it necessary to darken his cellar for days after the bees are carried in, so long as the temperature does not go below 40. With doors and windows wide open the bees are much the same as on the summer stands, only enjoying milder weather. If asked whether bees do not fly out, he replied, "Sure. But don't they fly out of the hive in the dark? And how do you know that in the dark, with air less pure, two bees would not come out of the hive and drop on the floor for every one that flies out in the light with its pure air?"

## How Soon do Bees Discover Queenlessness?

C. P. Dadant says, page 716, that he has often noticed bees showing signs of queenlessness within an hour after removal of the queen, though it sometimes takes less. Commenting on this, Gleanings says, page 16, "It is our opinion that it will seldom take longer than an hour, if it does that much, for bees to discover their queenless condition." This matter has a bearing upon the starting of queen-cells, and if these authorities be correct the time that it takes bees to discover their queenlessness is less than some have supposed. It would be well if exact observations could be made after *very* quietly removing the queen.

## Exhibiting Granulated Honey

Dr. F. D. Clum, of New York State, wrote us as follows recently about exhibiting extracted honey:

EDITOR AMERICAN BEE JOURNAL—

I attended the 19th annual exhibition of the Poultry, Pigeon and Pet Stock Association, held in New York City this week, and while there I noticed a fine display of live bees, and honey, both in the comb and extracted. All of the latter was a clear, thin liquid, just the condition it would be in the day extracted. Honey exhibited in this way to the general public at this time of the year is greatly misleading, and hurts the sale of pure extracted honey.

The public, after seeing this labeled "pure extracted honey," naturally expect to receive honey exactly like it when they try to buy it, and think something is wrong, or the honey impure, if they receive granulated extracted honey.

Why not exhibit extracted honey in both liquid and solid state, properly labeled, when exhibiting it to the general public? It would save the seller of honey a lot of trouble explaining, and prevent unjust suspicion arising in the mind of the consumer.

F. D. CLUM, M. D.

Dr. Clum is certainly right in the above. The sooner the general public become familiar with granulated honey, the better it will be for producers of extracted honey. The common idea that such honey must always be liquid is all wrong. This would have been a fine field for the late Honey-Producers' League to operate in. The extracted-honey producers could well afford to spend a little to acquaint the consuming public with the fact that liquid honey will granulate; and also that it is very easily reliquefied.

We hope that, hereafter, granulated honey will be shown in every honey exhibit. The Illinois State Fair honey display always has a large amount of granulated extracted honey. It is a good thing.

## The Plural-Queen Question

The author of this system, E.W. Alexander, comes out in Gleanings, and very frankly says that although he has had a plurality of queens living harmoniously together from the first of May until about October 20, yet on examination Nov. 5 he finds only one queen left in each hive. This will be a great disappointment to those who had counted on thus keeping extra queens through the winter. It leaves little value in the system, unless it prove on fuller trial that 2 or more queens in one hive prevents swarming. How that will turn out remains to be seen.

## Dual Virgin Queen Plan

One by one the prospects for success of new schemes seem to get a dash of cold water upon them. This time it is the plan of having 2 virgins in a fertilizing hive at the same time, one caged and one free, the caged virgin to be liberated when the free one is laying and removed. Editor Root says in Gleanings: "In order to make this dual

plan of introducing a success, the second queen should not be caged more than two days prior to the removal of the first one."

He says more than this is too long a confinement for No. 2, although he does not say what harm results from such confinement. If only 2 days' confinement can be allowed, the plan loses nearly all of its value. One must know 2 days in advance when a young queen is ready to be taken as a laying queen, and it is not an easy thing to do this so long as that time varies no little. Besides, it will not be an easy thing to plan always to have queens emerging from their cells just at the right time. To be sure, one may plan in advance to have virgins emerge from their cells within a short time of any given date, but that planning must be quite a number of days in advance of the emerging, and how is one to tell so far in advance just when they will be needed? Let us hope that it may yet be proven that virgins will bear confinement better than Editor Root supposes.

## Profits on Comb and Extracted Honey

A question pretty sure, sooner or later, to arise in the mind of every one who embarks to any considerable extent in bee-keeping is this: "Which will pay best, the production of comb or of extracted honey?" And many a one who has settled the question practically for himself is still so far from being entirely sure about it that he is always alert for anything like definite information on the subject. Hence the figures from so extensive and experienced a bee-keeper as E. D. Townsend, as given on page 720, last month, will be read with interest.

They seem to settle the question in favor of comb honey. For is not 37 2-3 percent better than 34 1-2 percent by the amount of 3 1-6 percent? But it will hardly do to settle down upon it that for all places and all conditions there is more profit in comb honey than in extracted honey. One weighty argument against any such conclusion is that many men of intelligence who have had experience in the production of both kinds of honey produce extracted honey exclusively. They would hardly do so if it were not more profitable for them. What is best for one locality may not be best for all localities. Indeed, it is possible that what is best for one bee-keeper in a given locality may not be best for another in the same locality.

Coming down to the direct case in hand, does the fact of that 3 1-6 percent in favor of comb honey settle it beyond question that Mr. Townsend can make more money by producing comb honey? If a return on the capital invested were the chief factor in the case, the matter of labor being insignificant, then the answer might be conclusive. But is it so? To take an extreme case for illustration, suppose we put the question, "Which is more profitable, chopping cordwood or producing honey?" Suppose Mr. Townsend invests \$1.00 in an ax, and gets \$300 in the course of the year for chopping; that would leave him a profit of \$299.



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or 29,900 percent of profit on capital invested. That's ever so much ahead of 34 1/2 percent he got in the honey-business. But while he makes a profit of \$299 with his ax, he makes a profit of \$490 with his two apiaries, to say nothing about his other apiaries, so he is not likely to desert his bees and take to the woods.

Indeed some such view was plainly in his mind, for in closing he says: "I think this statement would be incomplete, unless I told what my son would often say, while working this yard. The expression would be something as follows: 'I could have worked 5 yards for extracted honey with the same labor it took to produce this crop of 2300 pounds of comb honey.'"

Without saying positively what is the very best way to figure out the comparative profitableness of those two apiaries, it may not be out of place to say that one way would be to make a comparison on the basis of the labor

involved.

Leaving the item of "work" out of the accounts, the profits on the comb-honey apiary are \$311.74, and on the extracting apiary \$277.94. That seems to put comb honey \$33.80 to the good. But note that "work" on comb honey is charged at \$75, and on extracted \$25—3 times as much work in one case as in the other. To make an even comparison, put 3 times as much work on the extracted business, and you will have a profit of 3 times \$277.94 or \$833.82 against \$311.74 for the same amount of work at comb honey. Looked at in that way, extracted honey seems to be more than 2 1/2 times as profitable as extracted.

Neither does that settle the matter conclusively, by any means, for other factors may come into the problem not here considered. The answer to the question while always interesting, will probably always have to be settled for each one by himself.

National Bee-Keepers' Association, Hon. Geo. E. Hilton, of Fremont, Mich. The apiary shown herewith is one of the several that he owns. Mr. Hilton is an excellent presiding officer, has been a bee-keeper for many years, and is planning with the other members of the recently elected Executive Committee of the National to try to have the greatest convention of bee-keepers next fall that this country ever saw. It will likely be held in some city centrally located, so that the attendance may be large. About the only thing needed to insure the best success of the meeting is a big crop of honey. And some hopeful prophets say that 1908 is to be a good honey-year. Well, we know quite a few people who are willing that it should be such. There is nothing like being optimistic. So let us all hope that President Hilton will be able to deliver to bee-keepers a glorious honey crop this year!

## Honey in Demand

One item that looks like a greater scarcity or at least a greater demand for honey than heretofore, is the fact that the National Biscuit Co. is advertising for it. It is well known that this company has for years been using large quantities of extracted honey in its business; but this is the first of its advertising for honey; likely because heretofore enough was always offered without advertising.

## Sweet Clover as a Fertilizer

The probability is that sweet clover is sometimes estimated at greater than its real worth as a honey-plant, especially where white clover in great abundance coincides to a great extent with the blooming time of sweet clover. But it is very doubtful if it is generally valued as it should be as a forage plant. Still less does it get its due meed of praise as an enricher of poor



## Reports on Bees and the Honey Crop

We have received quite a number of these reports, which we asked for in December. In the February issue we expect to compile them for the information of our readers. As they are still coming in we thought it best to wait another month before placing the result before our readers. We would suggest that all who will do so, kindly send in their reports *at once*, so that we can include them with others next month.

## Pasting Labels on Tin

Paste made by mixing common wheat flour with cold water, then brought to a boiling point, will stick labels to tin. If mixed up with warm or hot water it will not stick, says Mr. W. H. Laws. —Bee-Keepers' Review.

## Do Bees Store Honey Below the Brood?

J. E. Hand having said that bees never store honey below the brood, a Stray Straw in Gleanings says that while the general preference of the bees is to store above the brood, there are exceptions, and the following examples are given:

"One year I put under colonies in ten-frame hives hive-bodies of empty combs for the bees to take care of. To my surprise, at that time, the bees did not leave them empty, as Mr. Hand says, but stored honey in them. For a number of years I've used bottom-boards 2 inches deep, with a false bottom, during harvest time, about 1 1/4 inches deep. A good many times the

bees have built comb in the space at the bottom of the hives, filled and sealed it, and I'm not sure they ever had brood in it. They were no more restricted than they always are, having abundance of room in the supers. Neither did the bees 'quickly remove' this honey, and combs were found unemptied when the false bottoms were taken out in October."



HILTON'S THOMPSONVILLE APIARY, IN BENZIE CO., MICH.

## Pres. Geo. E. Hilton, of the National

On the first page we present the latest picture of the new president of the

land. This because only lately has come into prominence the fact that the most valuable material to enrich the

## American Bee Journal

soil comes from the air by means of the legumes, of which clovers form a part. A striking example of what sweet clover will do for very poor land is thus given by D. P. Norton in Oklahoma Farm Journal:

"A few years after I came to Kansas I planted an orchard on the poorest kind of Kansas gumbo land, not fit for cultivation. I mulched young trees heavily for three or four years, also sowed it to white clover, partly because an orchard should not be cropped with any thing not a legume, and mainly for bees to work on clover. The orchard grew finely, and produced the finest of fruit on coming into bearing. The sweet clover mastered every thing and grew immensely. It had full possession eight or ten years, when I sold out eight years ago. Last fall I was there. About half the orchard had been in peach trees mostly, and the newcomer had cleared up half the orchard where peaches had grown, and was growing great crops of corn on that old gumbo land, beating his best bottom land, he said. I was amazed at the sight. He asked me what caused such corn to grow on that land. He said the plow would go right down to the beam in that soil—and he never had manured it. I knew in a moment it was the sweet clover. And there you are. The apple-trees remaining were extra large, and growing magnificent fruit.

"I am 73, and too old to plant another orchard. If I had known what I know now, what sweet clover would do to gumbo land, I could have bought 1000 acres of such land at seven or eight dollars per acre, and made it worth seventy-five dollars per acre for growing corn and alfalfa."

### "A B C and X Y Z of Bee-Culture"

Another new edition of this great bee-book has just been issued. It is an encyclopedia of bee-culture of over 400 large pages, all beautifully illustrated. It is bound in cloth, and is sent, postpaid, for \$1.50. The price was formerly \$1.20, but this latest edition is \$1.50. We mail it with the American Bee Journal one year—both for only \$1.75. No bee-keeper's library can be at all complete without a copy of this magnificent apian work. It has reached a sale of over 100,000 copies already, being the most largely sold book on bees in the world. Better send to us for a copy to read during the long winter evenings.

### The World's Pure Food Show

The Bee-keepers' Review for December contained the following illustrated write-up of the World's Pure Food Show, held in Chicago, last November:

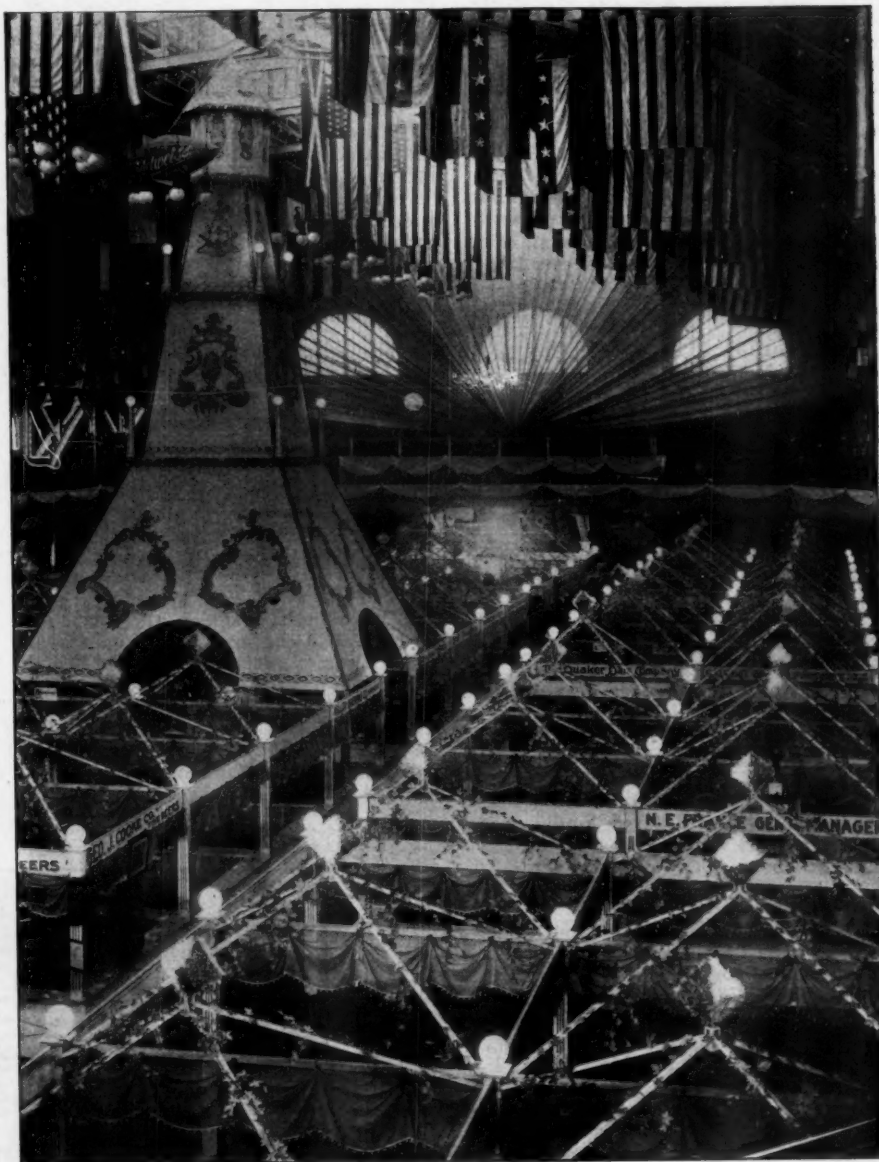
"It is said that the Coliseum at Chicago has the largest floor-space, of any one room in the world; and from Nov. 16, to Nov. 23, 1907, it was occupied with the first annual Pure Food Show.

"The booths were uniform in size (14 feet square), arranged in three double rows, with alleys between the rows, and three cross-alleys. The decorations were yellow and green, with imitation autumn leaves twined over the rafters that extended from the corner posts of each

booth to the center. The building was lighted with both incandescent and arc lights, and there was one incandescent light, enclosed in a ground glass globe, at each upper corner of every booth. In the center of the building, reaching to the dome, was a miniature Eiffel tower of dark grey, having red and green transparencies in its sides, the interior being strongly lighted with electric lights.

Somebody's flour; samples of sausage followed the same fate; the various breakfast foods were served with sugar and cream; and a visitor could easily drink his fill of the various coffees and other beverages.

"All around the sides of the building were booths rented to persons having some novelty to sell. By waiting ten minutes you could get three souvenir postal cards adorned with your por-



GENERAL VIEW OF THE PURE FOOD SHOW FROM THE BALCONY OF THE COLISEUM.

"The view from the gallery of the building was delightfully novel and beautiful, reminding one of a glimpse into fairyland.

"What was there on exhibition? Almost everything eatable and drinkable; and most of the booths were presided over by fair 'demonstrators,' with fluffy curls, bright eyes, smiles, ribbons and laces, and enthused with a boldness, natural or acquired, or both, that was sometimes more or less of a shock to the sensibilities. Sandwiches were given away to show the superiority of Mr.

trait; for 25 cents you could get a phrenological reading of your cranium, made by an ingenious, automatic machine, and with scarcely any effort, a man could load himself down with vegetable slicers and parers, knife-sharpeners and can-openers, Japanese vases, pop-corn fritters, or 'Kotton Kandy.'

"Yes, thanks to the money raised by the Honey-Producers' League, and later turned over to the National Association, the bee-keeping industry was creditably represented by a display of honey—one that compared favorably with the other



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exhibits. The use of the honey was contributed by different members of the Association, it coming from 15 different States and five foreign countries. After the show was over, the honey was returned to the owners, the Association paying transportation both ways.

"The accompanying illustration shows everything so clearly, that little remains to be said; unless it might be to say that the pyramid is eight feet square at the base, 12 feet in height, and is surmounted by a tall bottle of honey like those shown at the corners, near the base.

"It is probable that the advertising value of the exhibit might have been enhanced by following the course of the other exhibitors, viz., by giving away tastes of honey on dainty crackers, or in some such manner, also by selling dime packages; but the manner in which

name of the Arnd Honey & Bee-Supply Co., as we have always tried to give heretofore, under the name of the York Honey & Bee-Supply Co.

Thanking you for your many kindnesses, both in our business and personal relations, I am

Yours very sincerely,  
ARND HONEY & BEE-SUPPLY CO.  
H. M. ARND, *Proprietor*.

We wish the Arnd Honey & Bee-Supply Co. every possible success—and to all of our other advertisers the same. While the past honey season or two have been somewhat discouraging all around, we must all push ahead for final success.

**Complete 1907 Volume for 50 Cents**

We find on assembling the copies of

first session beginning at 7:30 p. m. on the 21st. Ex-President Aspinwall of the National Bee-Keepers' Association has promised to be present and talk on his non-swarming hive. It is expected that a number of Canadian leaders in bee-keeping will be present, among them being F. J. Miller and H. G. Sibbald, President and Ex-President, respectively, of the Ontario Association. Mr. Sibbald will speak on wax-extracting, and will also have something valuable to show in the way of wax-extracting. Not only Canadian bee-keepers but also those in the United States, who can do so, are cordially invited to attend this convention. The New American Hotel offers good accommodations at \$1.50 per day.

For further particulars address, W. J. Craig, Brantford, Ont.

## New Jersey Convention

New Jersey State Bee-Keepers' Association will meet at the State House in Trenton, N. J., Saturday, Jan. 11, 1908, beginning at 10 a. m. Among the addresses and subjects to be discussed are the following:

Bees and Blossoms—Pres. Wm. W. Case.

A Season with the Carniolans—A. G. Hann.

Preparing Extracted Honey for Market—Harold Horner.

What the Government is doing for the Bee-Keeper—F. G. Fox.

The Future of the Honey Business—J. H. M. Cook.

The Wintering Problem.

For further particulars address the Secretary, G. N. Wanser, Crawford, N. J.

## The Wisconsin Convention

The Wisconsin State Bee-Keepers' Association will meet in the Capitol, at Madison, Wis., Feb. 5, and 6, 1908. Pres. N. E. France promises several good papers and an abundance of questions. The special features of the Wisconsin convention have always been the friendly and social intercourse among its members, and the profitable and instructive questions and answers of special interest to bee-keepers. Everybody is cordially invited to be with us.

GUS DITTMER, *Sec.*

Augusta, Wis.

## Chicago Annual Poultry Show

The 12th Annual Poultry Show of the National Fanciers' and Breeders' Association will be held in the 7th Regiment Armory, in Chicago, Jan. 22 to 29, 1908. Liberal cash, special and general prizes will be offered. The 2d annual meeting of the American Poultry Association, (Mid-west branch) will be held in the Club Rooms of the Show.

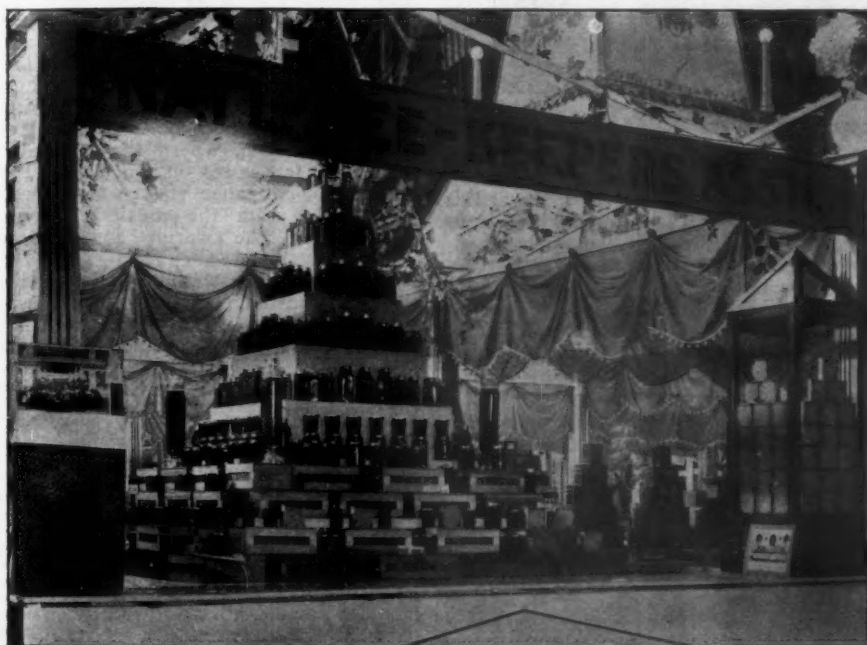
For premium lists and other information address, Fred L. Kimmey, Sec., 105 S. Clinton St., Chicago, Ill.

## Mercy in the Comb

Dr. C. C. Miller sends the following conundrum which he "built" himself:

"What is the quality of mercy?"

"It must be in the comb, for Shakes-



DISPLAY OF HONEY AT THE WORLD'S PURE FOOD SHOW.

the honey was secured precluded this feature."

We are indebted to the Review for the use of the two engravings herewith, as well as for the interesting description of the same.

## Arnd Honey & Bee Supply Co.

We have received the following which is self-explanatory:

EDITOR AMERICAN BEE JOURNAL:—

In as much as the time for which we were allowed the use of the "York" name has almost expired, we have decided that it will be best to make the change now, and have our name appear from this time, as the "Arnd Honey & Bee-Supply Co., successors to the York Honey & Bee-Supply Co."

Our advertisement in the American Bee-Journal has been a great help to us, and we hope to carry it there for many years to come. We also hope that the bee-keepers throughout the country will feel assured that we will give them the same honorable treatment under the

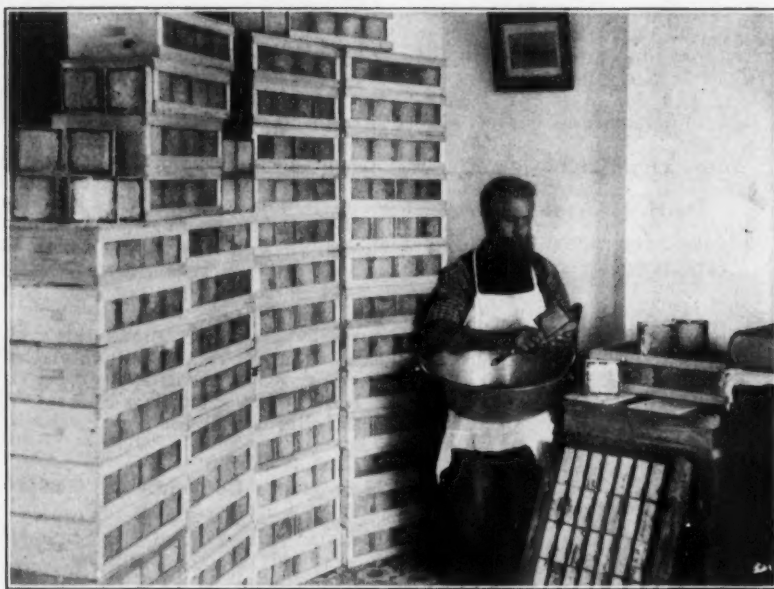
the American Bee Journal for 1907 that we have quite a few complete volumes left. The first half of 1907, as most of our readers know, the American Bee Journal was issued weekly, and during the last half, once a month. This would make the complete volume for 1907 consist of 32 copies. Although the first half of the year the price was 50 cents, (as the yearly price then was \$1.00), we will mail the complete set (32 copies) for only 50 cents, which is now the regular yearly subscription price of the American Bee Journal.

If any desire to have the volume for 1907 in connection with that of 1908, we will send the two volumes for 90c. We would suggest that those who wish to have the complete volume for 1907, should order very soon, so as to be sure to get it before all are gone.

## Ontario Union Counties Convention

In Brantford, Ont., on Jan. 21, 22, and 23, 1908, will be held the Union Counties convention of bee-keepers, the

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PREPARING COMB HONEY FOR MARKET.

peare says, 'the quality of mercy is not strained.'

That is very good. If the Doctor makes up any more of the same quality, whether "in the comb," "extracted," or "strained" form, we will be glad to have them.

## Preparing Comb Honey for Market

The illustration herewith shows C. N. Seward, of Nebraska, preparing his comb honey for market. While his specialty is the production of extracted

honey, he also has some comb honey. It will be noticed that Mr. Seward is using the original hand method in cleaning sections, instead of the machines invented for the purpose several years ago. By the way, we don't hear very much nowadays about section-cleaning machines. It looks very much as if most of those who produce comb honey don't have more than they can clean by hand. And we are under the impression that they would be glad to work over-time at it, if it were necessary, in order to take care of a larger crop.



Conducted by EMMA M. WILSON, Marengo, Ill.

## Women at The Chicago-Northwestern.

The Chicago-Northwestern Convention is over. A good time we had, too. The attendance was good, and the interest throughout the sessions was very marked. It was like a big family circle discussing topics of mutual interest to all. One of the most delightful features of any convention is the meeting and clasping of hands with so many old friends, and always the possibility of making new ones. We were very sorry that Mr. W. Z. Hutchinson, who was to have taken the report of the convention, although in the city, was not able to be at the convention on account of illness. We sincerely hope that ere this he has fully recovered. However, Miss Ruby Stryker—Mr. York's able office assistant—took his

place at the evening session and also the last day.

There was a very fair proportion of the gentler sex in attendance—18, if I have made no mistake. A bright, intelligent lot they were. I tried to get all the names, but may have missed some. The following is the list as I obtained it:

Miss Ella M. Ottaway, 4 colonies; Miss Carrie Ferguson, 4 colonies; Mrs. Laura Morris, 33 colonies; Miss Helen S. Wheeler, Miss Harriet Wheeler, Miss Mary Caldwell, Mrs. H. M. Arnd, Miss Margaret Arnd, Miss Ruby Stryker, Miss Mattie Godfrey, Miss Ada Benson, 100 colonies, 3000 pounds of honey; Mrs. G. Hiestand, 2 colonies; Mrs. Mary MacDonald, Mrs. J. J. Glessner, 11 colonies, 950 pounds of honey; Mrs.

R. B. Holbrook, Miss Mathilde Candler, 330 colonies, 5000 pounds of honey; Mrs. H. C. Holmes, 19 colonies; and Mrs. S. Switzer, 50 colonies.

## Honey Wafers.

Heat one cup of honey to the boiling-point, add half a cup of butter, let stand 10 minutes. Add the grated rind and juice of a lemon, one-half teaspoonful of soda, and flour to make very stiff dough. Roll out as thin as possible, cut into little oblong pieces and bake 10 minutes. When done, they should not be over a quarter of an inch thick, and as crisp as "ginger snaps."

## Bees Charmed by Music.

"Upon entering their residence on the south side Mr. and Mrs. Edward Simons found that a swarm of bees had invaded the home during their absence. The bees were in no good humor and immediately attacked the couple. While they were fighting and calling for help Miss Florence, a daughter of Mr. Simons, entered. She made a B-line for the music room, where she proceeded to play a few notes on the piano. The music had a strange effect on the bees, and aside from the music the house grew quiet. The swarmed insects were then easily hived."

The foregoing was taken from the Detroit Journal, of July 5, and was sent in by E. J. Delamater, of Dow, Mich. Should not a piano and young lady be listed regularly among bee-supplies, to be kept in the apiary during swarming-time?

## Bee-Keeping for Women.

Woman's activity in business is no longer a theory. Every avenue of work is crowded with her. She feels that she is emancipated from the narrow walls of household duties and needlework that used to confine her. One meets her in the store, in the bank, in the office. All the professions are now open to her. The schoolroom is almost entirely monopolized by women. Bookkeeping and typewriting are among the wage-earning pursuits which she aspires to and fills with more or less ability.

Without discussing the wisdom or unwisdom of modern women entering all the activities of life, perhaps no one will dispute the fact that feminine nerves have not improved by the strain upon them of steady work in the office or store. The demands of business are heartless and continuous. It takes the last bit of strength and energy that a strong person can summon. The highly organized, but not always overstrong, bodies of women often give way under the strain, and physical wrecks strew the highway of life.

If it were only fashionable to pursue an occupation where sunshine is the cosmetic needed to put color on the cheek and luster in the eye, it would be better for womankind and her offspring. Unfortunately it is not considered quite the thing to bronze the skin and develop the muscle while earning a living. That is all right while taking a summer vacation, but after the outing is over the bleaching process soon begins, and lotions which are supposed to add beauty to the complexion are the rule.

But why should occupations that give exercise, and muscle, and health be more unpopular than those which tend to keep the wage earner delicate and dainty? It cannot be that men admire the pale and powdered type of feminine beauty more than the ruddy and robust figure that possesses the natural glow of health acquired in open air and sunshine. It is a pity that labor requiring exercise should be unpopular. It is a pity that out-door life is not more sought after by delicate women in search of employment. If health and profit could be combined what an ideal condition would be found.

It is true that some women have found



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profitable employment in outdoor ways, but to my way of thinking not enough are so inclined. There are a number of things which a woman might do that would enable her to live in comfort and yet to enjoy the freer air of heaven while doing it, but I shall mention only one or possibly two that are well adapted to her.

Bees and poultry are a combination that go well together, and which a woman can manage as well as a man. Indeed, I believe she will achieve greater success in either line. She is especially well adapted to them by nature. She has an infinite capacity for detail that doubly discounts the other sex. She has a natural neatness that surpasses her male rival, and hence I look for her product to be prepared for market in a more attractive style. The history of bee-culture shows that some of the most successful bee-keepers have been women. They adapt themselves to the requirements of the business with such readiness that they surpass everybody, including themselves.

For the benefit of those who would like to take up this branch of outdoor work, and who hesitate for fear of stings, or the difficulty of hiving swarms, I will try to make it plain that neither of these fears are as bad as they appear. With a bee-veil and gloves, and a good smoker, there need be no fear of stings, and after a little practice the first will be discarded almost entirely. A knowledge of the creatures will give confidence. One soon learns their dispositions and knows when a veil is necessary; and when most necessary there is usually little occasion for handling. During a honey-flow, when one is putting on or removing supers, bees are seldom cross, and a veil is a hindrance to rapid work.

A woman may manage swarming by clipping the wings of all laying queens, thus dismissing the dreadful thought of climbing trees to capture high-flying swarms. A woman could find a queen as readily as a man, and if she is captured the swarm will not go far and will be pretty sure to return. Or the colony may be divided at the proper time instead of waiting for natural swarms. All this can be attended to by a woman as well as a man. A woman could soon learn to rear queens to supply divided colonies and to sell, thereby adding to her income. This part of the business would prove quite fascinating and quite profitable.

Putting hives and sections together is as practicable for women as for men, and the charm of working with bright and clean new lumber, and putting in the dainty and fragrant foundation is as alluring as the click of the typewriter or the rattle of dishes in the kitchen. Besides taking one out of doors and thus proving a more healthful occupation than any office work or teaching or dressmaking, there is no doubt that it is a money-making business and rapidly growing more so.

Everything now used in an apiary is made in factories, and is furnished made up or in the flat as demanded. Supplies are uniform and exact, and it is a pleasure to handle and make them up.

The first requirement in bee-keeping is a knowledge of the natural history of the bee. This can be gained through books easiest and cheapest, and if one has the instinct of curiosity, or a leaning to scientific research, the study will be found very interesting. A practical work on apiculture is a necessity unless one chooses to learn natural history through observation alone. But life is too short. It is better to begin where the others have left off and, through experience, add to the knowledge gained from books.

EUGENE SECOR.

This article by the Hon. Eugene Secor, the poet-laureate of bee-keepers, copied from the Northwestern Agriculturist, is somewhat lengthy, but it is all so good that none of it can be cut out. In one respect many of the sisters would probably not agree with Mr. Secor. The three articles mentioned, "the bee-veil, gloves and a good smoker," would all seem to most of us actual necessities, but if we really had to give up one of the three no doubt the gloves would have to give place to the bee-veil and smoker. To a "mere man" a veil may be "a hindrance to rapid work," but then he is not a woman, accustomed to a veil as a regular article of dress.

## Are Hive-Lifters Valuable?

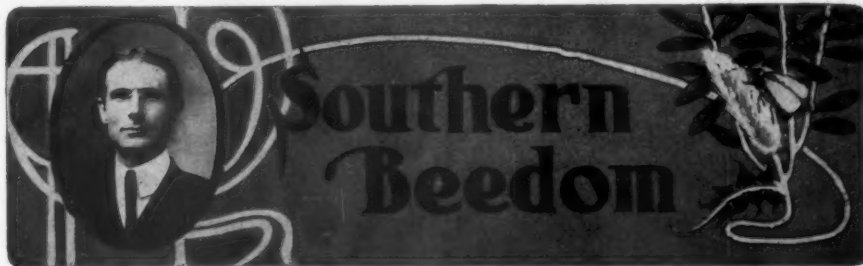
The Canadian Bee Journal, page 337,

gives an illustration of a hive-lifter used by John Bailey, and says:

"His hive-lifter must be a great aid in the bee-yard, particularly for those whose physical strength is at all impaired by age or otherwise. Our lady friends should find it a great help. Mr. Bailey says he uses his four-wheel cart as a wheelbarrow, and can carry one to six hives or supers on it, as desired. By running the shafts under the cleats on either side of the hive, it can be picked up and placed in its new location

during swarming season. This, with his hive-lifter, will greatly facilitate his work."

A good deal has been said lately about hive-lifters, some of the lords of creation lauding them, others seeming to think them hardly worth while. The Canadian Bee Journal thinks the hive-lifter especially adapted to ladies. How is it, sisters? Have any of you tried them? Whatever may be said about a hive-lifter, certainly a cart or wheelbarrow is often a great help.



Conducted by LOUIS H. SCHOLL, New Braunfels, Tex.

## Good 1908 Honey Prospect

Texas has gone "wet" by a big majority (of counties) this time, for sure. It's been raining most of the time all over the State for the past 3 months, and is still at it at this writing. This, however, means big things for Texas in 1908, in the way of a honey crop and other crops, other conditions being favorable.

## Friendly Criticism Desired

If any of our readers see anything in this Department under my signature that is not in accordance with Southern bee-keeping according to their views, they will confer a favor by calling attention to it, keeping in mind that friendly criticism is always in order.

## OUR 1908 HONEY-YIELDERS ALREADY GROWING.

If it were not for Dr. C. C. Miller laughing at me, I would say that prospects were never brighter at this season of the year for a honey crop the coming season. This is owing to the warm and very wet weather we are having. All of our best honey-plants are up and growing, as if it were spring. This will put them in excellent condition to stand the next 2 or 3 month's winter weather that we are likely to have. Then with a few showers of rain in the spring, with the warm sunshine we are sure to have, Texas will be one vast flower-garden through March, April, May and June.

## QUALITY OF "MARIGOLD" HONEY.

My oldest daughter heard a bee-keeper not long ago say, "I had to give up bee-keeping in my location, on account of the bees getting so much honey from wild 'marigold,' and spoiling my honey so I could find no sale for it." This is another new one to me. I have kept bees, and have been a close observer of the various honey-plants of this State, for something like 25 years, and this is the first time I

have heard that "marigold" honey was of an inferior grade. I have sold thousands of pounds of it, and never had a single complaint of it. I wish I had to-day all the "wild marigold" honey I could sell. What say you, Mr. Scholl, about the quality of "marigold" honey?

## CAGED QUEENS AT THE ENTRANCE.

I can't remember seeing before in print the statement that Mr. Doolittle makes, on page 1433 of Gleanings for Nov. 15, 1907, that to cage a queen near the entrance of the hive, the work goes on right along as if nothing had happened, the bees often failing to start queen-cells at all. This is worth remembering, if true; and I am not prepared to say it is or is not, from experience. And if I doubted his statements I should hesitate to say so, for you know Mr. Doolittle's head is usually pretty level on bee-topics.

## SUPERSEDE THOSE OLD QUEENS.

You have it right, Mr. Scholl, in speaking of leaving it to the bees to supersede their own queens. Where you say, "Too often the queens get so old and feeble that the colony dwindles down to a mere nucleus before it gets a new queen, and will require a long time to recover, if at all, at the expense of the bee-keeper." (Page 1434, Gleanings for Nov. 15, 1907) I am sure it has always paid me well to look after failing queens in all of my work with the bees. It is so very easy to rear good queens during the honey season from the best colonies, and requeen all colonies with old or otherwise undesirable queens, that I can see no possible excuse for leaving this to the care of the bees. I would almost as soon leave it to the bees as to how often they should swarm and re-swarm, without any resistance on my part, as to allow them to do their own requeening. Yes, sir, it pays, and pays well, to destroy old and failing queens, in "this locality." Especially is this true in poor years for bees. I have often known bees in a poor

# American Bee Journal

year to hold on to their old queen until she became a drone-layer. Why they should do this I will leave it to others to say. L. B. SMITH.

Rescue, Tex., Nov. 27.

There is a difference of opinion regarding the quality of honey from any given source, Mr. Smith, and so it is with "marigold" honey. *Gaillardia pulchella*, commonly known as "wild marigold," yields a rather dark, golden honey, of heavy body, with a rather distinct flavor of its own that some people do not like, if accustomed to some of our mild flavored honeys. This, however, has never been objectionable to me, nor have I heard others complain as does the bee-keeper mentioned by you. I am like you—I could sell a lot of that honey now, and surely would not have to go out of business on account of the quality of "marigold" honey.

## The Divisible Hive Again

Here is given a letter from quite a number in which are asked questions that are also contained in the others. I have thought that such letters would stop coming, as they have been coming to me for 10 years, since I have used such hives; and since so much has been written in the various bee-papers regarding them. But it seems that there are so many points to consider before making a radical change from one good hive to another that, perhaps, may not prove as good. And well may it be that a thorough investigation be made, therefore, before making a change. Hence all these letters:

DEAR MR. SCHOLL:—Your article referring to the sectional hive together with the other good things I have read concerning it, have nearly converted me to that hive. It is not so much that hive that appeals to me as the system which goes with it. I think I can see benefits connected with the sectional hive which no other hive can give, but I wish to be sure before I make a change. I have a good hive for this location, but of course, the "frame-handling system" goes with it. It measures 14 $\frac{7}{8}$  inches long and wide, and 10 $\frac{3}{4}$  inches deep. I use shallow extracting supers nearly entirely, and if I change to the sectional hive I will use these supers as brood-chambers as well as supers. Mr. Hand uses the standing frame, and I understand you use the hanging frame. Would you mind telling me why you do not use the standing frame? Mr. Hand also has a movable side to his hive. I do not think that necessary. What is your opinion?

If you were producing extracted honey entirely, would you still prefer your hive?

In tiering up my supers without an excluder I nearly always have a little brood in every super. Would the same thing happen with you by a little mismanagement, and have you a kink which always prevents it? I am very much interested in this system, but I want to be "dead sure" before I adopt it. I know I am presuming a good deal in asking your advice, but hope you will find time to give me a little help in the

matter, with any suggestions you may think helpful. There is only one man in Canada who uses the divisible brood-chamber, so far as I know.

H. A. SMITH.

Palermo, Ont., Dec. 17.

As regards the divisible brood-chamber hives, I can not refrain from believing that such hives, together with the system of management that should always go with them, (mind you that), are bound to become more popular in the future than they have in the past. That they will supplant the other styles, I would never claim, for there are too many bee-keepers for whom the divisible hives would not prove a success, hence some other style of hive should be used by them.

Neither would I advise any bee-keeper, no matter how well he is informed, to make a radical change from the deep to the shallow hive. Try a few of them and see if you will not be convinced. If I had all the prospective bee-keepers who have written me regarding my hive, and others who are interested in my apiaries, during one season, I know there would be a majority of converts. Several of my earlier opponents have been converted in less than a month's time with me.

The idea of using the shallow extracting supers already on hand for the experiment is good, hence I call special attention to it. If none are in use procure a few, and if the experiments with them as divisible brood-chambers do not prove satisfactory, use them as supers, and very little expense is entailed.

Either hanging or standing frames can be used, and I think the difference

is generally due to what the apiarist has become accustomed. I can not see why standing frames are used, as I have tried them. They are not so easily handled in rapid, short-cut, large-scale operations as the hanging frames, which can be dropped in place in a twinkling. Neither could I prevent mashing bees where the standing frame-rests are below and out of sight, while with the latter the rests are in sight, and the frames swing into place. Where propolis is abundant, as it is in some of my apiaries, standing frames have been even a nuisance. My preference is a shallow Hoffman self-spacing (V-edge) frame with thick end-bars, full  $\frac{3}{8}$ -inch, and narrow  $\frac{7}{8}$ -inch top-bars  $\frac{1}{2}$ -inch thick. These go into a plain super shell with rabbets (no tin rests), and are handled from the top. No movable sides are necessary, as there would be no use for them with me, and would be only an extra expense, besides weakening the super.

Some of my apiaries are managed entirely for extracted honey, others for comb and extracted. The queens have access to the first shallow extracting super at the beginning of the season, and later the honey is put in the combs in place of the brood, keeping the queen below. Then if the brood-nest is manipulated just at this time, by exchanging the upper half with the lower one, providing room for the queen, there will be very little trouble about brood in the supers, as the bees fill the combs rapidly with honey; and, besides, there is sufficient room for the queen from there on in such a large brood-chamber equal to 12 Langstroth frames. I have tried queen-excluders, but discarded them soon about 8 years ago, and would not use them in honey-production.



Conducted by J. L. BYER, Mount Joy, Ont.

## The Ontario Convention Again.

In the very brief report of the Ontario Bee-Keepers' Convention, which appears in December issue of this journal, several features of the proceedings are not mentioned. This is explained by the unavoidable absence of the writer during one of the sessions, and also to the fact of his having to act as auditor during the time that one address was given during another session. The brief report referred to, was hastily prepared from notes taken while at the convention, and the foregoing is simply given, in the hope that any who took part in the proceedings will not think that any slight was intended. Some of the addresses given, of which no mention was made in the December issue, were as follows:

A paper by Prof. Surface, of Har-

risburg, Pa., on the subject of "Bees and Horticulture;" a paper by R. H. Smith, entitled "A Chapter of Mistakes," and a lucid address by Arthur Laing, on the "Production and Exhibition of Honey."

## Time for Fall Feeding of Bees

So you think, Mr. Editor (page 741), that the diverse views of Canadian bee-keepers in regard to the proper time for fall feeding, is apt to make beginners feel "somewhat dizzy." As one of the trio referred to in said editorial, I shall endeavor to reconcile somewhat such seemingly different opinions, and in a measure bring order out of chaos.

The writer, as correctly quoted, said in the Canadian Bee Journal, that in his experience it is not wise to feed much



before September 20. Editor Hurley says he prefers to feed when the "last batch of brood has hatched." I suppose Mr. Hurley does not mean to infer that he waits until there is *absolutely no brood* in the hives, as in our locality some colonies will have some brood clear into November. However, the point is this: By waiting till Sept. 20, my object in so doing is precisely the same as in Mr. Hurley's case, as by that time brood-rearing is pretty well over, and the syrup fed goes where I want it—right into the heart of the brood-nest. So you see, there is not so much difference in practice, after all, between advice given by Mr. Hurley and methods followed by myself.

At first glance, Mr. Adams' views in favor of feeding at the close of the honey harvest does, I admit, seem diametrically opposed to what Mr. Hurley and myself advocate, but after careful scrutiny the difference is not so apparent.

Mr. McEvoy is very enthusiastic in this matter of early feeding, and Mr. Adams is a thorough disciple of Mr. McEvoy's, at least in the matter of feeding bees.

It will also be remembered that Mr. McEvoy is very particular that his bees go into winter quarters on *combs sealed clear to the bottom*, full of either good honey or sugar syrup. Knowing Mr. McEvoy's views along this line, for some time it was a mystery to me, how *solid sealed combs*, could be obtained, by feeding "at the close of the honey-flow." In a personal interview, only a short time ago, Mr. McEvoy explained how he accomplishes this. Like Mr. Adams, at the close of the honey-flow he feeds all the colonies will take, *then in the fall when the brood is hatched out, he puts on the feeders again, and completes the job.* While I can not positively assert that Mr. Adams followed out the latter part of the program, I feel pretty sure that such is the case, judging from the fact he is an advocate of colonies being very heavy for winter.

Again, the matter of locality figures a great deal in feeding, as well as in many other things pertaining to bee-keeping. Mr. McEvoy, who lives in a locality where there is almost absolutely no bee-forage after the white honey-flow, admitted that the early feeding was not to be thought of in places where there was a buckwheat or other fall flow. If I am correct, there is rarely, if ever, any fall flow in Mr. Adams' locality. In our immediate district, while we rarely obtain much surplus from the buckwheat, yet enough nectar comes in to keep brood-rearing going on at a lively rate well on into September.

The strain or race of bees has also quite a bearing upon the subject at issue, as it is a well-established fact that pure Italians, as kept by both Mr. McEvoy and Mr. Adams, are more conservative in the matter of brood-rearing than are Carniolans and their crosses. While I have some pure Italians, the great majority of my bees have Carniolan blood, and the latter *always* breed later in the season than do the Italians.

All things considered, there is not

then so great a difference of opinion among the three Canucks under arraignment, on the subject of feeding bees for winter. However, before closing, let me repeat in a "stage whisper," that for *my locality*, "experience has taught me, that for various reasons, it is not wise to do much feeding previous to September 20.

#### Amount of Syrup to Feed for Winter Stores

Another interesting phase of the feeding question has been the different estimates made, as to the number of pounds of syrup necessary to be given to a colony to make up a certain deficiency in weight. Some years ago, a member of the Ontario Bee-Keepers' Association made the statement that a pound of sugar made into syrup would not be equal to more than a pound of honey for winter stores. I thought at the time that too low a value was placed on the sugar, but after some years' experience in feeding a number of colonies, I came to the conclusion that the estimate of my friend was about correct. However, I never made any careful experiments along that line, consequently I was in no position to make anything like a positive assertion.

At the fall meeting of the Connecticut Bee-Keepers' Association, the question, "How many pounds of sugar should it take to make 10 pounds of winter stores?" caused that careful apiarian investigator, Mr. Allen Latham, to do some experimenting, and it is a source of pleasure, at least to the writer, that we now have some authoritative data on the subject. Three average colonies were weighed and then fed at once 20 pounds each of syrup, made of  $12\frac{1}{2}$  pounds of sugar to  $7\frac{1}{2}$  pounds of water, a ratio of 5 to 3. At the end of two weeks the hives were again weighed, and the following gains recorded: 14.5, 14, and 13.5 pounds.

Mr. Latham says, if we assume that each colony had the right to consume one pound of stores (whether fed or not) during the 2 weeks, the actual gain would be 15.5, 15, and 14.5. While these results seem to prove that a pound of sugar equals somewhat more than a pound of honey for stores, the question still arises, "Is a pound of the sealed syrup equal in *lasting qualities* to a pound of honey?" Although I much prefer pure sugar syrup for wintering, yet of 2 colonies weighing precisely the same in October, one fed on sugar, the other with honey, I would be much more afraid of the first-named colony being the first to starve in the spring; this assumption of course being based on colonies not fed beyond the danger limit.

It would be interesting if Mr. Latham or some other bee-keeper of an investigative turn, would carry out these experiments from fall till the following spring.

#### Growing Mustard for the Bees

Speaking of bee-forage, in December American Bee-keeper, Arthur C. Miller says:

"Another form of pasturage which might be possible to the bee-keeper running his own farm, is the sowing of

mustard with his grain crops. It is doubtful if the average farmer can be persuaded to do anything of the kind unless he is also a honey-producer, for the farmer looks upon mustard as a noxious weed."

If by the word "mustard" Mr. Miller means charlock or wild mustard, as we have it here in Ontario, farmer bee-keepers would better hesitate before sowing it on their own or any other land. While it may not, as Mr. Miller points out, materially reduce the yield of grain, yet mustard is a noxious weed, and good farms infested with the plant will not sell for more than 60 percent as much as the same land free of the weed. Moreover, this Province classifies it as a noxious weed, and no one could lawfully spread it on his own or any one else's land.

However, I agree with Mr. Miller as to the value of the plant as a honey-producer, and as two of my three yards are in localities where mustard has full sway over some hundreds of acres of rich land, I am in a position to appreciate fully the benefits of the plant from a bee-keeper's view. In the majority of years, it blooms at the same time as al-sike, and in such cases the benefits of the plant are not so pronounced, as I find when the clover is yielding well, the mustard is not visited by the bees.

But some years we have an exceptionally early seeding, and when this is the case, the mustard blooms from 10 days to 2 weeks earlier than the clover, and it was in a year like that, that the mustard was worth fully \$500 to the scribbler of these notes. While bees in localities that had no mustard, had to be fed, my bees stored about 25 pounds per colony, and what splendid condition they were in for a short, rapid clover flow that followed! While the yard that had no mustard within reach stored very little surplus, the other apiaries averaged over 100 pounds per colony.

Mr. Miller says that with him the yield seems to be uniform one year with another, but with us that is by no means the case, as some years it yields abundantly, and at other times hardly a bee visits the bloom. However, the bee-keeper is always sure of the bloom, as it is quite able to withstand frosts, drouths, or any other conditions of weather. The honey is of fair quality, light golden in color, and as a rule goes right in with the clover honey, with no detriment to the latter.

#### Souvenir Bee Postal Cards

We have gotten up 4 Souvenir Postal Cards of interest to bee-keepers. No. 1 is a Teddy Bear card, with a stanza of rhyme, a straw bee-hive, a jar and section of honey, etc. It is quite sentimental. No. 2 has the words and music of the song, "The Bee-Keeper's Lullaby;" No. 3, the words and music of "Buckwheat Cakes and Honey;" and No. 4, the words and music of "The Humming of the Bees." We send these cards, postpaid, as follows: 4 cards for 10 cents, 10 cards for 20 cents; or 6 cards with the American Bee Journal one year for 50 cents. Send all orders to the office of the American Bee Journal, 118 W. Jackson Blvd., Chicago, Ill.



## More Bees or Better Yields— Which?

BY G. M. DOOLITTLE.

Not long ago I received a letter from one of our best apiarists, in which he declared that he was going to keep more bees than he had in the past, and do less work with them, as he was confident that double the number of colonies would give him more honey from his field or location than he had been getting, and that he might care for this doubled number he would do less work on each colony than he had been doing. He felt sure that double the number of colonies would give him more honey, even if he let them take care of themselves, than he had been receiving from half of them, with all the labor he had bestowed on the number he had formerly kept. He said that he believed that the system of management used by many in securing large yields from individual colonies, caused a greater amount of labor and manipulation than there was any need of, and henceforth he should adopt exactly the reverse from the plans he had formerly been using, and put more bees into his field, so that he would get the same amount of surplus, and he thought much more, with very little labor. If Mr. Alexander could keep 700 colonies in one place, he did not see any reason why he could not keep 500, just as well as to be keeping the 250 which he had been doing. I have not quoted the words used verbatim, but I have given the substance of that part of the letter treating on this matter.

I know there is an idea prevailing with some bee-keepers, that more money is to be made in apiculture by keeping a large number of bees and letting them largely take care of themselves, than there is by keeping a less number and properly caring for them. But is this idea correct? Have all the items which bear on this matter been given the proper consideration? As I have been advocating keeping only as many colonies as could be properly cared for, I asked myself if I was in the right or in the wrong. After reading the letter, I concluded that it behooved me to consider the matter a little, and if I were on the wrong track, I had better get right. The first thing that seemed to impress itself on me was the extra cost of hives and supers which would be required for double the number of colonies I was keeping. When I first began keeping bees, 40 years ago, this hive item was no great one, for at that time there were forests all about me so that lumber good enough for hives could be purchased at \$15 per 1000 feet, and that with honey at from 35 to 50 cents

a pound. But now it is altogether a different thing. The same 1000 feet of lumber would cost me \$40, while I must pay for the same with 15 to 18 cent honey. This gives this hive problem a very different look from what it used to have, 35 to 40 years ago, and is something worth considering when we come to think of doubling the number of colonies of bees we are keeping.

Then, all do not have a location like Mr. Alexander—no, not one in 500. If I am correct, he is surrounded by thousands of acres of buckwheat, with enough nectar-producing flowers before this flow from buckwheat to keep his bees and bring them up to a good condition to take advantage of the flow when it comes. The most of us depend upon the flow from clover and basswood, which comes so early in the season, and especially where white clover is the source of our surplus, that it is by the most careful coaxing and manipulation that our bees are gotten strong enough to be in good condition for this early storing; and failing in these matters, we have an entire failure; for, unless we have the bees on hand to secure the nectar when it comes, all the bees brought on the stage of action at a later period count for naught, as there is nothing for them to store from.

With a location giving an abundant yield from clover from June 15 to July 10, then from basswood to August 1, and then an Alexander location which simply flows with honey from buckwheat from August 8 to September 10, this keeping of more bees might be something worth considering; for, with such a location, the bees would almost keep in perpetual readiness for the flows as they came, and the yield would be great enough to cover all extra cost of hives, etc. But with the average location there is something of greater importance, as I consider it, than anything before alluded to.

After carefully looking the matter over, I believe that there is one item regarding these extra colonies which the advocates forget, which is great enough more than to pay for all extra time spent in building each individual colony up to where it can profitably take advantage of any flow of nectar which comes in our locality, which item is great enough more than to offset all of the others, so that the investing of capital in more hives for the extra number of colonies is worse than thrown away. This item is, that each of the extra colonies put in the field in order to secure the nectar-secretion from a given area with but little or no caring for the colonies, costs at least 60 pounds of honey each year to support. So the question, it seems to me, would be, which

is the cheaper, the labor formerly spent on one-half the number to get them in shape for the harvest, or the extra colonies, hives, etc., and the honey that the extra colonies will consume?

Suppose that 500 colonies produce an average yield of 30 lbs. each on the let-alone plan, and by so doing secure all the nectar in the field year by year. This would make 15,000 pounds of surplus as our share of the field, while each of the 500 colonies will use 60 pounds, or 30,000 pounds as a whole, as their share to carry them through the year. Thus we fail to secure to ourselves only one-third of the honey from our field by employing an extra number of colonies. On the other hand, if we employ the management plan that our best farmers do—that of securing the same amount of produce off one acre of land that the "go as you please" farmer does off of two or three—we shall find our statement thus: 45,000 pounds is the product of our field; 200 colonies are all that are needed with good management to secure it. Then 200 colonies must use 12,000 pounds of this for their support, leaving 33,000 for the bee-keeper, or the one who adopts the good-management plan. Thus it will be seen that the apiarist who shows "good generalship" gets 18,000 pounds of honey for his generalship, and uses little if any more time than he would use on the 500 colonies without any management; hence, from the standpoint of securing all the honey produced by our field, the management plan is 18,000 pounds ahead of the other plan of "keep more bees," so greatly emphasized by its advocates. And I consider that the same holds good, be the number great or small.

A live apiarist can care for one-half the number of colonies on the good management plan as easily as he can for double the number as proposed by my correspondent, and this one-half will give the apiarist as good results in dollars and cents as will the whole cared for in the neglected way necessary with "keep more bees," and save the extra honey consumed by the extra one-half of the number of bees, as clear gain to the bee-keeper. And, besides this, there is an inspiration and an enthusiasm which comes with the management plan that is worth a whole lot to the bee-keeping world. Look at Mr. Terry, who took that farm in Ohio and made it produce three times the bushels of potatoes which the one preceding him did! See what such management did for Mr. Terry, and, much more, see what it did through Mr. Terry for the world. This old world grows better as well as richer through those who are not afraid to put forth a little extra energy, that the small things which they may chance to have can be "made to bud and blossom as the rose."

Borodino, N. Y.

## Two Queens in One Hive

C. P. DADANT.

In the past few months, some interest has developed among readers of the bee-papers concerning the keeping of two or more queens in one hive. Enthusiastic bee-keepers having noticed that sometimes two queens are found



living peaceably in the same hive, have concluded that it would be a good thing to cultivate that tendency, thereby securing a greater amount of brood and a greater force for the harvest of honey.

If we investigate the occurrences of abnormal presence of two queens in the same hive, we will find that in nearly every case (exceptions confirm the rule) this happening is due to the rearing of a young queen by the bees in order to supersede the old one that is losing her fertility. The writer has found instances of this kind, quite often, in his experience, but in nearly each instance one of the queens was practically a nonentity, being at the end of her career, and laying but few eggs. Evidently she was disregarded by the bees, and by the young queen as well.

Dr. C. C. Miller, who has the well-earned reputation of being the most cautious writer on bee-matters, because he seldom advances a statement of which he is not absolutely positive, made the assertion, at the December meeting of the Chicago-Northwestern Bee-Keepers' Association, that when bees rear a young queen to replace or supersede the old mother, they rarely if ever destroy the latter, but allow her usually to die a natural death from old age.

That the existence of two queens in one hive, at the same time, one being the mother of the other, has happened oftener than the apiarist realizes, is quite probable. The elder Dadant, who had a long experience in queen-rearing and queen-introducing, often said that when the bees refused to accept a queen that had been properly introduced by keeping her caged in the brood-chamber for a number of hours, it was usually because they yet had another queen which was not suspected by the apiarist. The custom is to hunt the queen, and, when she is found, to look no farther. In most cases, we would be looking for something that did not exist, if we looked for a second queen, but we have accidentally found two queens while looking for only one. The writer reported such an occurrence on page 52 of the new Langstroth Revised. In other instances, finding a very decrepit queen in a strong colony running over with brood and young bees, we would at once conclude that she could not be the mother of all these bees. Looking farther, we would find the daughter in full vigor and probably already several months old.

But granting the fact that when a queen is superseded owing to decreasing fertility, she is allowed to remain and to continue laying until she is entirely sterile, and finally dies, does this make it advisable to attempt the introduction of valuable fertile queens in hives already supplied with good, prolific mothers? In other words, will it be profitable to keep two or more queens in a hive, and to expend money in buying or rearing queens for this purpose?

A number of instances are cited, in which a queen has been introduced in a colony already supplied, and the two queens have apparently lived in harmony, and bred. But there is no doubt that in many cases, such attempts at forcing nature would be failures. When

in possession of an observation hive, who has not tried this experiment, just out of curiosity? And how regularly the new queen has been destroyed, often by the bees themselves, without allowing the two mothers to come to a battle royal.

The principal instances in which additional queens may be accepted and allowed to remain unmolested are during a good, favorable season, when the bees are prone to accept strange young bees and drones without protest. They are at that time in a pleasant mood, and will suffer conditions which would incite their anger in unfavorable times.

The only purpose for which an additional queen in a hive might prove profitable would be to secure a greater force for the harvest. In order to do this, it would be necessary to introduce the additional queen early enough in the season to rear bees that would be profitable by being on hand at the time of the honey crop. It takes 21 days for a worker-bee to hatch, from the time the egg is laid. This worker is not a field-laborer until from 14 to 19 days later, in normal circumstances. Thus a queen must be introduced to the hive from 35 to 40 days previous to the time when her first workers are expected to be of use in the fields. If the additional force which she is expected to produce comes near the end of the honey crop, she will be furnishing a lot of consumers that will lose more than they will make. So it is very plain that an additional queen, supposing her to be at once accepted and not molested by either the bees or the mother-queen of the colony, which is always very doubtful, must be introduced very early in the season, if we expect her to help the harvest.

It would also be necessary that the gain thus made be greater than it would be if each queen occupied a hive of her own. If the queen could be safely introduced at any time without greater risks than are incurred in the introduction of a queen to a queenless colony, the proposed course would be much more plausible, but such is not the case. Queens which were accepted, during the reign of another in the same hive, afterwards proved missing. Either the queens had met and fought, while at leisure during the idle months, or the bees had concluded that one queen was enough. Not only we can not depend upon securing a safe introduction at all times, but we may rest assured that one additional queen or the other, as the case may be, will be done away with in the course of the season.

The question before us, then, is whether it pays to sacrifice a queen for a possible increase in the surplus.

Some apiarists who have never reared queens seem to be of the opinion that the queen costs but little to rear. To us it seems that the queen is the most expensive part of a good colony. A bee-hive well made and painted costs between \$2.50 and \$4, according to size. This lasts some 30 years. We have had hives exposed to the weather which became worthless at the end of 35 years. Had they been sheltered, they might have lasted longer, and a portable roof which will keep the hive dry will cost only a few cents, if made of rough lum-

ber. So the cost, to the apiarist, of his hive material, including interest on the money and a sinking fund, to replace the hives in 30 years, would not exceed 35 to 40 cents per year. The cost of the foundation for the brood-combs of an ordinary hive is \$1 or less. These last as long as the hive, and the wax they contain is still there at the end of the time, returning at least half of the original value.

But the value of a good tested queen in a hive, as early in the season as she would be needed for a profitable rearing of brood, is from \$1.50 to \$3, and she lives only about 3 years. So the average cost of the queen in the economy of the hive is the greatest, and the life of the colony, the number of bees which carry it through the winter, depend upon her. The colony itself, in the busy season is not considered as worth any more than the queen, and is practically worthless without this most indispensable member.

If we introduce a good queen in a hive having one already, we are taking chances upon the life of either, or both. We are risking the most useful member of a colony, one which would promptly build another, if put with the other parts, less expensive than herself, for a problematical and very doubtful possible increase in production.

If the queen we have to spare is worthless, pinch her head off, and let us not risk having her fight the other and destroy her. If she is as she ought to be—a good tested queen—let us hunt up a colony having a worthless queen and make the exchange. If we have none such, let us make a nucleus, giving the prolific queen to this nucleus, and in a very short space of time we will have one more good colony for honey production.

Instead of believing that the queen is the cheapest and easiest supplied capital of our apiaries, I believe that she is the most important, and the most difficult to supply, at the time of the year when such capital is needed. I therefore strenuously object to jeopardizing such capital by making introductions that are at best a forcing of Nature's ways, and of only possible success.

Hamilton, Ill.

## A Wonderful Queen-Food—Overstocking

BY PROF. A. J. COOK.

I notice in a late number of one of our leading bee-papers, and that from one of our leading authorities, the statement that the prepared food that is fed to the queen, young bees, and brood, is a glandular secretion from the "lower head-glands of the worker-bees." This statement is made in one of our leading bee-books, but not in Cowan, who is almost always, if not always, correct. I am sure that it is not true, as I once tried an experiment that was crucial in settling this matter.

The facts in the case are as follows: The bees take the pollen or other proteid food down into the chyle or true stomach, and as it is passed down, they mix with it copious amounts of this secretion from the lower head-glands,

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which is thus a ferment to digest the nitrogenous food, and not the food itself. This digestion is accomplished in the true stomach, and then the peptone, or digested proteid, is passed back into the mouth and given to the bees, the drones, or to the brood, and thus we have the whole process.

One reason that was urged to show that the bee-pabulum was not digested proteid, but the secretion from the lower head-glands, was the fact that from the lower end of the honey-stomach hangs a continuation of the tube which, like the valve at the end of our own small intestine, would act to restrain the food, after it is digested, from passing back to the mouth, and thus regurgitation would be quite impossible. This would be so were all the truth told. The fact is that there are muscles in the honey-stomach that enable the worker-bee to raise the stomach-mouth at the lower part of the honey-stomach, so the valve is obliterated, and it is not only possible, but easy, for the bee to regurgitate the digested proteid.

The experiment that I tried to prove this point, was as follows: I mixed with some honey some finely-ground charcoal. I had before removed the queen, and the bees had queen-cells with newly-hatched larvæ in them. In a day or two I found charcoal in the royal jelly. We know positively that charcoal is wholly non-osmotic, that is, it can not pass through an animal membrane, nor is it capable of digestion, that is, it can not be made osmotic. We see, then, that if the secretion in the lower head-glands was the food of the larvæ, it could not contain the charcoal, which it did contain. This could not get from the stomach except it pass up into the mouth, or down and out through the intestines with the fecal matter. Here, then, we have positive demonstration that the secretion from the lower head-glands is not the food, but rather the ferment, that digests the food and fits it for queen, brood, etc.

This digested proteid food is a wonderful food, as it is what is given liberally to the queen, and what enables her to do such wonderful execution. We know that the queen is able to lay 3,000 eggs in a day, and these weigh nearly twice as much as does the queen herself. Does not this speak volumes for the excellence of this food? I doubt if any food comparable is to be found elsewhere in nature or art. We think of milk as a perfect food, a balanced ration, as the dietist terms it, and it is wonderful, but it gives no such results as we note from this pabulum of the bees. Does it not give us a hint of what man may do? May we not hope to fabricate a food that will enable us to secure much greater results from our domesticated animals? If we could manufacture a food that would secure from our fowls twice their weight of eggs in a day, or from our cows twice their weight of cream in the same time, would it not be a wonderful triumph of human invention? We may hope to do this, but if Nature has wrought so much with the bees, and this all unaided, what may not man hope when he gives to this subject his best thought and study? Already he has achieved much in his prepared food for fowls.

## OVER-STOCKING.

Dr. Miller has his ear perpetually to the ground that he may hear aught that may help or hinder his brothers of the craft. He has had much to say of the danger of over-stocking, and the necessity of some law, written or understood, that would protect the bee-keeper from infringement or trespass in this matter.

I wonder if we know that we over-stock our locality? In good seasons in California, the product is sometimes enormous, and may we not conclude that in case we do not get much honey, it is because the conditions are unfavorable, and the nectar is not there to be gathered? It is not rare, in good seasons in California, in very large apiaries where hundreds of colonies of bees are massed in one place, for the bee-keeper to secure as much as 500 pounds of honey from each colony. Would not this argue that with the proper conditions the amount of nectar to be collected was enough for far more bees than are usually kept in one place?

It seems to me that this is a question that should receive from our Department of Agriculture, very thorough investigation, that the real, actual facts might be determined. If we knew that a certain area—say a radius of a mile or 1½ miles—would in an average season maintain an apiary of say 100 colonies, generously, and no more, then we would be warranted in demanding some legislation that would not only protect the bee-keeper that was already on the ground, but that would also give the greatest results to the country. There is no sense at all in crowding so that all are handicapped and unable to do well.

Claremont, Calif.

## Report for the Season of 1907

BY WILLIAM STOLLEY.

Reports of good and satisfactory crops of honey this year, appear to be rather exceptional and I am glad to say, that I can give a good report of my apiary, as the result of the season's work just passed.

I put into winter in the fall of 1906, 42 colonies,—rather more colonies than I desired to have. All wintered well, but last spring was anything else but favorable for bees. It was exceptionally cold and backward, and all fruit-bloom was destroyed by frost as fast as it opened.

I fed 200 pounds of diluted honey and sugar mixed—60 pounds of honey, 50 pounds of sugar, and 90 pounds of water—although clear up to June, my bees were well provided with natural stores. At that time I sold 2 choice, well-tested queens for \$4.00, killed 4 old queens, and united the colonies rendered queenless, with the weaker colonies left, thus reducing the number of colonies from 42 to 36 colonies, of which 4 colonies were in the "New Heddon" hives while 32 colonies were in my own—mostly 14-frame American hives. This manipulation made all colonies extra strong in bees, with lots of brood, but very little honey, at about

the time when (June 15th) alfalfa opened bloom.

About that time (June 13th and 14th) we enjoyed the exceedingly pleasant and long-to-be-remembered visit of Mr. and Mrs. Dadant. Swarming had begun 2 days previous to their arrival, by those colonies in the Heddon hives; from 3 Heddon colonies I had 5 swarms, and but one of the Heddon did not swarm, and from this I obtained 78 nice and well-capped, and 27 nearly finished, sections of honey. In all I got but 151 sections well capped, from the 4 colonies in the Heddon hives.

Sweet clover commenced to bloom about July 1st, and for some time we had a "gusher." Several fields of alfalfa in my neighborhood were allowed to go to seed, which improved conditions greatly.

While the production of comb honey is a rather poor showing in a very good season, a different and much better report I have made on those 32 colonies in the large hives with American frames and run for extracted honey. The bees in these latter hives did not swarm at all. I have extracted 4 times—July 30, Aug. 9, Aug. 29, and Sept 23. The crop secured was 3433 pounds of surplus honey, ¾ of it being light in color and about ¼ amber, or about an average of 107 pounds per colony.

I also got 60 pounds of nice beeswax from cappings.

Four stray swarms hived themselves in my decoy hives on the roof of the bee-shed—they were all hybrids except one, and the queens I destroyed late in the season; the bees were united with other colonies. Thus I have now 33 colonies in large hives with American frames, 12¼ x 12½ inches, and 4 colonies in New Heddon hives.

All colonies have at least 30 pounds of honey each, and up to 40 pounds of winter stores; also, 350 pounds of honey in brood-frames are set aside for feeding next spring.

I finished winter packing on Nov. 8, and on Nov. 10 and 11 we had the first real cold spell—20 degrees F.—but the temperature is moderating now again.

Thus my 28th year as a keeper of bees (although it had probably the least favorable spring of all years) turned out to be one of the very best of all.

Grand Island, Nebr. Nov. 14.

## The Honey-Eaters' League

BY LEH R. FREEMAN.

As an evidence of the necessity for a Honey-Eaters' League, as well as for an Apple-Eaters' League, I will mention a circumstance that occurred right over here in the Gem State of Idaho.

I went to Grangeville, (a lovely county seat town of 2,000 population), and when I sat down to breakfast, up comes an elegant looking gentleman 6 feet high, dressed in white, born in Wyoming, (a State that I had the honor to name) graduated at the University of Idaho, and advanced waiter in the swell commercial travelers' hotel bear-



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ing the euphonious cognomen of the Jersey House, the proprietor of which was a widely known pioneer, prospector and mining capitalist.

The first utterance he made was: "Wheat Manna?"

I responded: "What in the world is that?"

The answer was: "Predigested Breakfast Food."

I said: "Not any for me, thank you; my digestion is very good, and my appetite is as sharp as the fangs of a wolf, by reason of the stage ride up from Stites over the Grand Camas prairie. Just give me some plain mush made of rolled oats, mountain water and Oneida County Chloride of Sodium. But before you do that, take out of my sight that dish of Ben Davis pumpkins and bring me two apples as a starter for my breakfast—let them be or the Newtown, Spitz, Jonathan or Wine Sap variety."

After I had devoured everything on the table the vision in white remarked: "Hot cakes?"

I said: "Now that depends. What kind of sweets have you to serve with them—is it honey?"

His answer was: "That's what's branded in gold on the bottom of the bottle—Pure Honey made at the Seattle Syrup Factory."

He was told to hike over to a store and get me some bee's honey branded Arthur Hanson's Apiary, Lewiston, Idaho.

After using the finger bowl to clean the nectar of the gods from my mustache, I entered the lobby and to proprietor, Geo. R. Reed, I said: "Landlord, you have an elegantly appointed hostelry here, I and my party will make a stay of a fortnight in town, we don't want any cut rate, but we insist on your decorating every table with the best apples and honey on the market. If you can do that we will remain with you; if not, we will consider it our sacred duty in the interest of the Apple-Eaters' and the Honey-Eaters' Leagues to move."

After that no more Ben-Davis apples or Seattle honey appeared on the tables of the Jersey House, and the fame of the bill of fare has spread to all travelers who demand the purest and best that this region can produce.

Now, friends, let us organize right here by the assistance of these rugged farmers, the professors and the hundreds of students of the agricultural colleges of two grand States, the "Honey-Eater's League."

Honey is a scarcer and more wholesome article of diet than is butter, therefore it should be more in demand and should command a higher price than butter.

If all of you will do as I did at Grangeville, and as I do everywhere I travel, you can increase the demand of honey until it will sell at 50 cents per pound, providing the package bears the brand of an apiarist who is of good standing in the Washington Bee-Keepers' Association; and Seattle honey will disappear from the market.

By the vigorous enforcement of pure food laws, honey made by any creature except the bee will be outlawed.

Let each member of the League constitute himself a committee of one to educate the landlords, the grocers, and the public generally, to the necessity for pure honey.

And to you, fellow apiarists, permit me to say that you need not fear overproduction. There will never be produced enough pure honey.

It is a duty that we owe to ourselves and the community, to see that no prescription is compounded by a druggist in any honey that is not produced in the laboratory of the *Apis Mellifica*.

Honey is both a preventive and a corrective of disease. It neutralizes acidity of the stomach, conduces to nervous composure, sound sleep, and healthy mind in a sound body.

The most inviting picture in Holy Writ is in the words referring to the Land of Canaan, of which it was said it was the valley "flowing with milk and honey."

When I took to Yakima Valley a quarter of a century ago, the first improved apiary, my neighbors thought the black bee in boxes nailed solid was good enough for them. But I sold them bees and bee supplies, and now we have single individuals who market from 5 to 20 tons of honey per year.

When you look at the snow white alfalfa honey sold in cartons and pyramids by the officers and members of this association, you feast your orbs on something more tempting than "Solomon in all his glory" ever beheld.

When some of it touches the palate, I am always reminded of an incident that occurred in my boyhood days in old Virginia. An old negro and his nephew were riding a poor, crowbated horse that could scarcely be urged to a faster gate than a walk. The boy enquired: "Uncle Ben, what am de best thing fur to eat?"

The old man answered: "Sweet taters and gravy."

The little fellow replied: "O no, Uncle Ben, I knows of somefin dat's better'n dat."

Uncle Ben asked: "What is it?"

The youngster answered: "Sweet taters and possum and gravy."

At that the old man said: "Shut up, you little black rascal; you'll make dis boss run away!"

Now if that little darkie had ever tasted of granulated honey from one of our cartons, he would have added: "Honey and hot waffles."

If you could participate in the banquets that we usually have at our annual meetings you could partake of the most delicious dishes of honey candied in cartons, comb honey, extracted honey, fruits preserved in honey, pickles put up in honey-vinegar, honey-cake, honey-jumbles, honey in pies, honey-candy, and honey prepared for the table in dozens of ways. In staple articles of food and in nicktenoodles, tantaddles and tarts and honey-cumpie victuals.

Both ends of the bee have always been of singular interest to us, and this for opposite reasons. It is a double-ender—one end the friend, the other the foe of man.

My quarters here at the Agricultural College are in the home of Prof. Chas. W. Bean. I am reminded of an incident that transpired when I was a boy riding horseback through the Alleghany mountains. I stopped over night at the Bean settlement, which consisted of two farms owned by Mr. Bean and his son. It was a long way between settlements. When we came to the supper-table, there was a great stack of hot, smoking buckwheat cakes that had been cooked by the bare-footed daughter of the host, in front of an open fireplace, and the old man talked with the greatest degree of gusto, telling me about how he came and cleared away the forest, and adventures he had with the wild game, how he had improved two farms, and that he now had an abundance on his table including apple-butter, peach-butter, plum-butter, pear-butter, cow-butter, and tree molasses, buckwheat-cakes, and honey. Every other minute he would lick out his sharp-pointed tongue as an expression of ecstasy which he anticipated in devouring those delicious dishes, especially the honey and hot-cakes.—Read at the Washington State Bee-Keepers' Convention.



## Report of the Pennsylvania Convention

The fifth annual meeting of the Pennsylvania State Bee-Keepers' Association was held at Harrisburg on October 29, 1907. The meeting was called to order by Pres. H. C. Klinger, with prayer by Wm. A. Selser.

The minutes of the previous meeting were read by Secretary F. G. Fox, and

approved. The report of the secretary was next presented and adopted. It showed that while the past season, in general, was a very poor one, yet a fair to good crop of honey had been secured in some parts of the State. This was particularly true where the bee-keepers used hives larger than the 8-frame, or by stimulative feeding had kept the bees breeding through the cold, backward spring, so that they were ready for the honey-flow when it came.

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As foul brood has again manifested itself in many parts of the State, the urgent need of legislation to assist in its control and final eradication was again brought home to the bee-keepers.

The secretary recommended that hereafter a fixed salary be paid to the secretary-treasurer for his services.

The membership has shown an encouraging growth, and the outlook of the Association is very promising.

The treasurer's report was next presented, on motion was approved, and a vote of thanks given him for the able manner in which he had financed the Association.

Prof. Surface, as chairman of the committee on legislation, reported on the work that the committee had done. A bill drawn up and presented by Mr. Carson, was referred to a committee, which, when they met, conferred with the legislation committee that had been appointed, and the bill was reported out of the hands of the committee at once. During the rush of the last days of the Legislature the bill was not called up, and with more than a hundred other bills, was laid asleep. Prof. Surface recommended that we agree on a bill to be presented to the next Legislature. He then read the following that had been presented, and called for criticisms on the same:

## AN ACT

For the suppression of contagious diseases among bees in Pennsylvania by creating the office of Inspector of Apiaries, to define the duties thereof, and to appropriate money therefor.

SECTION 1.—Be it enacted by the Senate and House of Representatives of the Commonwealth of Pennsylvania in General Assembly met, and it is hereby enacted by the authority of the same, That upon the recommendation and nomination of a majority vote of the Pennsylvania State Bee-Keepers' Association, or by the Economic Zoologist and the Secretary of Agriculture, the Governor shall appoint for a term of two years a State Inspector of Apiaries who shall, if required, produce a certificate from the Governor that he has been so appointed. He shall be subject to summary removal for neglect or malfeasance in office, on complaint of the Pennsylvania State Bee-Keepers' Association, or of twenty persons who are actual bee-keepers, his successor to serve for the balance of his unexpired term.

SECTION 2.—The inspector shall inspect bees kept in the State of Pennsylvania, and when notified in writing by the owner of an apiary, or by any three disinterested taxpayers, examine all reported apiaries and all others in the same locality not reported, and ascertain whether or not the disease known as foul brood or any other disease which is infectious or contagious in its nature and injurious to honeybees in their egg, larval or adult stage, exists in such apiaries, and if satisfied of the existence of any such disease he shall give the owners or care-takers of the diseased apiaries full instructions how to treat such cases as in the inspector's judgment seem best.

SECTION 3.—The inspector shall visit all diseased apiaries a second time, and if need be burn all colonies of bees that he may find not cured of such disease and all honey and appliances which would spread disease, without recompense to the owner, lessee or agent thereof.

SECTION 4.—If the owner of any apiary, honey or appliances wherein disease exists shall sell, barter or give away, or move without the consent of the inspector, any diseased bees (be they workers or queens) honey or appliances or expose other bees to the danger of such disease, or fail to notify the inspector of the existence of such disease, said owner shall, on conviction, be liable to a fine of not more than one hundred dollars, nor more than two months' imprisonment.

SECTION 5.—By the enforcement of the provisions of this act the State Inspector of Apiaries shall have access, ingress and egress to and from all apiaries or places where bees are kept, and any person or persons who shall resist, impede or hinder in any way the inspector of apiaries in the discharge of his duties under the provisions of this act, shall,

on conviction, be liable to a fine of not more than one hundred dollars, or not more than two months' imprisonment in the county jail. All fines are to be turned into the State Treasury.

SECTION 6.—After inspecting infected hives or fixtures, or handling diseased bees, the inspector shall, before leaving the premises or proceeding to any other apiary, thoroughly disinfect his person and clothing and tools and implements used by him.

SECTION 7.—It shall be the duty of any person in the State of Pennsylvania engaged in rearing of queen-bees for sale to use in mailing cages which have been boiled for at least thirty minutes. Any such persons engaged in the rearing of queen-bees shall have his queen-rearing apiary or apiaries inspected at least twice during each summer season, and on the existence of any disease which is infectious or contagious in its nature and injurious to bees in their egg, larval or adult stages, said person shall at once cease to ship queen-bees from such diseased apiary until the inspector of apiaries shall declare the said apiary free from all disease. Any person violating the provisions of this section shall be deemed guilty of a misdemeanor, and upon conviction thereof subject to a fine of not more than two hundred dollars.

SECTION 8.—The inspector of apiaries shall make monthly reports to the Economic Zoologist, giving the number of apiaries visited, the number of diseased apiaries found, the number of colonies treated, also the number of colonies destroyed by fire, and the expense incurred in the performance of his duty. He shall also keep a careful record of the localities where the diseases exist, but this record shall not be published, but can be consulted by any citizen interested.

SECTION 9.—There is hereby appropriated out of any moneys in the State Treasury a sum not exceeding three thousand dollars per year for the suppression of contagious diseases among bees in Pennsylvania.

The inspector of apiaries shall receive four dollars per day and traveling expenses for actual time served, which sum shall not exceed the moneys hereby appropriated to be paid by the State Treasurer upon warrants drawn by the Auditor General, and shall be authorized to employ such temporary aid as he may need at a salary of not more than three dollars per day and expenses.

SECTION 10.—All acts and parts of acts inconsistent herewith are hereby repealed.

SECTION 11.—This act shall take effect immediately.

On motion the report of the committee was accepted with thanks, and the committee continued.

Prof. Surface then spoke of the importance of the bee-keepers to urge upon the legislators the necessity of such a law when the next Legislature convened.

Pres. Klinger then gave the annual address. He told of the strides that bee-keeping had been making. The loss caused by foul brood is as destructive to the bee-keepers as the San Jose scale is to the fruit industry. Another success was the securing of the meeting of the National this year. Another thing we stand for is good fellowship. The people need to be educated to the value of honey and the beneficial results of bees as pollinizers.

The election was then held with the following result: Prof. H. C. Klinger, of Liverpool, re-elected president; C. N. Green, I. R. Miller and George Rea were elected vice-presidents; and A. F. Satterthwait, of Harrisburg, was elected secretary-treasurer.

## EVENING SESSION.

The meeting was called to order by Pres. Klinger. The committee on dues reported that they deemed it advisable that 25 cents of the dues of the local association be allowed to remain with them, and the remaining 75 cents be turned over to the State and National associations. On motion the report was adopted.

On motion it was decided that the sum

of \$20 be paid to the secretary-treasurer as a compensation for his work.

It was voted to hold the next meeting in York, Pa., in October, 1907.

## BEE-STING CURE FOR RHEUMATISM.

Prof. Surface gave a very interesting talk on the bee-sting cure for rheumatism, giving a method where by the use of a hypodermic syringe the formic acid could be injected under the skin, causing no pain, and the rheumatism or lumbago would disappear in 48 hours. This does not cure in every case but is a cure in the greater majority of cases.

Pond's extract of witch hazel will relieve the swelling and pain of a bee-sting.

Mr. Reneker, who has had considerable experience with rheumatism and bee-stings as a cure, stated that he had received a severe stinging with the bees and had been completely cured of rheumatism ever since. He has also been immune to the sting of the bee as a result of the stinging fracas.

Mr. France cautioned people who were affected with scrofula to beware of bee-stings, for it is liable to prove fatal to them in a few minutes. Prof. Surface gave it as his personal opinion that a superabundance of bee-stings caused a bloodless condition; that is, a lack or insufficiency of red corpuscles with an excess of white corpuscles. Mr. Holtermann found it advisable to keep some strong stimulant at hand to be used in case of severe stinging, when the heart is affected. Spirits of ammonia was suggested to be used in such cases. Pres. Klinger cited an instant where his aged father had been rheumatic and was stung a number of times on the knee while hiving a swarm, and had had no rheumatism since. This was three years ago.

A motion decided that the executive committee of this association be empowered to send a man to aid or assist in the organization of local associations, as they deemed best.

## SECOND DAY.

A meeting was called to finish up some things that had been left over from the preceding day.

Pres. Klinger called it to order. The committee on resolutions offered the following report, which was adopted:

We, the members of the Pennsylvania State Bee-Keepers' Association in convention assembled at Harrisburg, Pa., Oct. 29, 1907, offer the following resolutions:

*Resolved*, That we express the thanks of the Pennsylvania State Bee-Keepers' Association to Dr. N. C. Schaffer, Superintendent of Public Instruction, for granting us free use of the audience of his department for our meeting, and also the use of the adjoining room for our exhibitions.

*Resolved*, That we thank the Department of Agriculture, Washington, D. C., for granting leave of absence to Dr. E. F. Phillips, Burton N. Gates, and Franklin G. Fox, to attend our convention.

*Resolved*, That we thank our retiring Secretary, Franklin G. Fox, for his untiring efforts in behalf of the interest of our association.

*Resolved*, That we thank N. E. France, Geo. W. York and R. F. Holtermann, for their presence and interest taken in our State meeting.

*Resolved*, That we recommend individual action by our members to increase the usefulness and membership of our State Association, and united action in supporting nominee, Prof. H. A. Surface, for election as a member of the board of directors of our National Bee-Keepers' Association.

Geo. H. Rea,  
E. S. Hacker,  
J. D. Hull,  
Committee.

The subject of gathering crop reports



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was taken up and discussed. It was decided that we refer the subject of publishing statistics to the president and secretary.

A motion was made and carried that the report of this year's meeting be incorporated with last year's report.

R. F. Holtermann was unanimously elected a member of the Association.

Mr. Hilton, of Michigan, gave a very interesting talk on foul brood legislation. He urged that every member write to his representative when the bill is presented, and then its passage is secure.

A motion was made and carried that we extend our hearty thanks to Pres. H. C. Klinger for the time and money he spent in behalf of legislation during the past winter.

Vice-Pres. George Rea suggested that we publish notes on this meeting in our local papers.

On motion the meeting adjourned.

FRANKLIN G. FOX, *Ex-Sec.*

## Minnesota-Wisconsin Convention

The annual convention of the South-eastern Minnesota and Western Wisconsin Bee-Keepers' Association will be held in the Court House at Winona, Minn., Feb. 26 and 27, 1908. Those interested are invited to be present.

OZRO S. HOLLAND, *Sec.*

Winona, Minn.

## Western Honey-Producers' Convention.

On Thursday, Feb. 6, 1908, there will be a morning and afternoon session of the Western Honey-Producers' Association in Science Hall Library Building, Sioux City, Iowa.

Foul brood and the marketing of honey will be the principal topics. There should be a large attendance of bee-keepers.

fornia College, and an experience in California agricultural and horticultural matters that is not possessed by any one else, make him too valuable a man to remove from the position he so well fills. The Professor has been a good friend to the bee-keepers of this State. His position as editor of the Pacific Rural Press has allowed him to uphold the bee and honey industry, and he has not neglected any opportunity to do so.

## Bees Still Shaded at the University.

On a former occasion I took the opportunity to mention the fact that the bees of the University of California are buried in dense shade. A few days ago I was visiting the University grounds, and I found the colonies in the same spot. The bees have to "sift" their way through the foliage to get to their respective homes. The location of the apiary is in other ways a peculiar one. It is on the bank of Strawberry creek, right at the end of one of the main streets that leads to Berkeley—in fact, it is the most direct from Oakland to the University. The colonies are just inside the fence which comes very close to the creek at this point. As few teams come near this spot there is little danger of horses being stung.

I am surprised that the Entomological Department of the University does not do something to find a better location and build up a model apiary. I noted that the number of colonies were 13. The superstitious would likely say, "No wonder they don't do better." But they will, if given a proper show.



By W. A. PRYAL, Alden Station, Oakland, Calif.

## The Weather in California.

So far the coming year gives promise of being a fruitful one, that is, if a plentiful rainfall may be taken as an indication. The holidays were moist under foot, with evidence of lots of water over head. The earth in this portion of the State (Dec. 30) has been sufficiently rain-soaked to allow of extended cultivation. When the sun shines the bee is on the wing, so that the eucalypts, acacias and other nectar-secreting trees harbor a merry multitude of happy workers.

## The Cytisus in California.

All through December and, perhaps, for a month or two later, *Cytisus proliferus* is in bloom in Central California. I have noted this plant heretofore in these columns, but as its season of inflorescence is again here, I must mention the fact that the bees are working on its blossoms with the same vim that I saw them display last year. The tree has only been in a flowering state on our place now for the third time. At this writing (Dec. 30) the tree is white with bloom. Our trees are 8 or 10 feet high; they look like giant clovers—hence the name, "tree-clover," as they are often called. The plant is a native of the Canary Islands. It is quite hardy in this portion of the State, and, I should think, it will make a splendid addition to the bee-flora of the lower counties, where it can be given a moist, sandy location. The plant belongs, I believe, to the laburnum family. Prof. Bailey, in his Cy-

clopedia of Horticulture, gives the name as I have above, but I find that the University of California and Prof. W. K. Morrison (the latter in the Roots' A B C of Bee Culture) adds *albus*, which seems unnecessary, inasmuch as there is only the white variety.

## Our Fair Bee-Keepers.

Recently in casually looking over the pages of the New Brunswick Magazine for September, I noticed an article entitled, "Woman and the Bee." Not having time to read it I laid the publication down, first looking, however, to see who was the author of the article. I was pleased to find that it was by the daughter of one of our largest honey-producers—J. F. McIntyre. Miss Flora McIntyre was born and reared on a Ventura-county apiary, and besides her sire being a bee-expert, her mother and grandfather were as well, the latter being the late R. Wilkin, a pioneer of the lower counties of the early seventies. The article is illustrated, and no doubt very interesting.

## Wickson's Worth Wins.

Some months ago I mentioned that there was a rumor afloat that Prof. E. J. Wickson, Dean of the Agricultural College of the University of California, was to be succeeded as dean by an Eastern man. At the time I expressed a hope that the change would not be made. As nothing has been done to oust the professor, it is likely nothing will be, for over 30 years of service at the Cali-

## Do Pleasures, like Bees, Carry a Sting?

In a brief note I received a short while ago from the "Sweet Singer of Santa Clara Valley," Miss Marcella A. Fitzgerald, was this beautiful sentence: "The bees: well, like all pleasures, they carry a sting."

Yes, I may add, to some who are not over-indulgent, the sting never pierces them, and how seldom is the careful apiarist injured by the bee's sting. To get sweets we need not be stung. Neither when we inhale the delightful fragrance of a rose need we suffer from the thorns that are everywhere about. It would seem that the Creator fortified nearly all the sweets he gave us with a sting or thorn of some sort; and he gave us instinct to be wary of the evil that lay in our way. Perhaps it would be uncharitable to say it is the fools that "run up against" the stings, yet such seems to be the case. And many of us are foolish, or do foolish things, at times.

## Winter's Wintery Winds Withering.

This heading is laid on heavily that I may the better emphasize the necessity of having snug quarters for the bees during winter. While it is true the California bee-keeper has none of the wintering problems of his Eastern brothers to contend with, still, it is necessary to see that bees are protected from the rain and winds even in this State. The two main things to guard against are

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(1) leaky roofs, and (2) too much entrance space. Have covers fit snugly—if they extend over the edges of the hives an inch all around all the better. Then there should be no cracks, or knots where water may leak through. If you can't procure whole, sound cover-boards, use tin or roofing paper to cover the entire upper surface of the board or boards.

Contract entrances to a half inch or less for weak colonies. An inch will be sufficient for the stronger colonies until say in February, when the colonies will be growing stronger naturally. Then see that all weak colonies are sufficiently provisioned during the winter to keep them from starving. Better feed late in the evening so as to foil the bees that are always ready to rob.

## Danger of Glass with Honey.

Sacking comb-honey in a Sackett wrapper may be a good thing for the sellers of Eastern honey, and it is surely an appropriate name. It is neat, clean and serviceable, to say the least. I never did believe glass should be used about a honey-section. The danger of the glass being broken and particles of it adhering to the comb, and later finding their way into the consumer's stomach, is too serious a matter to be tolerated. I don't know how many deaths in the East may have resulted from such accidents, but I am confident there were none in California, for the simple fact that here no one glasses honey-sections. Perhaps it is for the reason that our honey is so nice that it does not need any fancy after-fixing to make it salable; or, maybe, glass is too expensive to be so used. At any rate, humanity and the bee-keeper's pocket-book are the gainers.

## Dandelions and Morning Glories.

The editors of Gleanings in Bee Culture have blown a loud blast in favor of the dandelion as a honey-plant; they also claim that it is good for food for man and beast. They did not put it just that way, but, in plain English, that's what it amounts to.

Yes, I heard that dandelion greens are good to eat, and that it is also a good spring medicine; but I never heard that it was a butter-producer. Still, why shouldn't it be such? If the stems are broken the "milk" will flow, so *where there's milk there must be butter!* Here in California, we have no use for the dandelion; it is a weed to be abhorred. It is a pest hard to get rid of.

And here I would say that we have another pest that is hard to get rid of, and that is a certain morning glory that grows, and grows, and won't "vamoose the ranch" once it gets ever so small a foothold. Its roots run deep and every which way in the earth. Cultivating the land only spreads the pest. I have never met any one who has yet rid a piece of land of the morning glory when once it has started to grow. Aside from being a honey-secreter of some merit, and also furnishing an everlasting supply of green feed for cattle, it has no redeeming qualities, and these

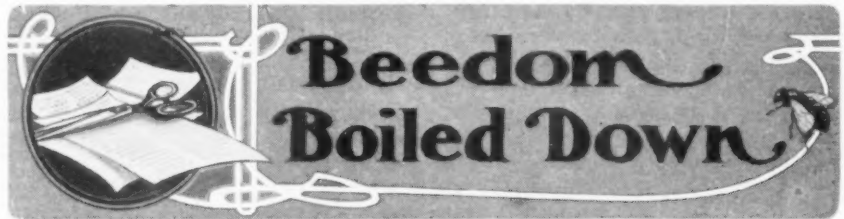
will not be considered sufficiently extenuating to prevent a jury from bring-

ing in a true bill against the culprit.

## The Bees that "Make" the Honey.

A correspondent of Green's Fruit-Grower informs the readers of the May issue of that paper "that it is the female honey-bee which makes the honey, and that all others are not honey-makers," and the editor gives the statement

a prominent position, without comment. "All others are not honey-makers." Did you ever? A colony of bees, as every one knows, consists of a queen, some drones, and an army of undeveloped females, commonly called workers and sometimes referred to as neuters. At that rate the queen "makes honey," as she is the only true female in the colony. Study up on bees, Mr. Green. They are good for fruit, and honey and fruit are good for your table.



## Somewhat Mixed, Isn't It?

Here's an astounding piece of information given in Australian Bee-Bulletin:

"The average amount of honey taken from a British hive is 50 pounds, double the American average. The record 'take' from any hive was 1000 pounds from a colony of Cyprians."

## Hiving Bees in a "Jiffy."

"A learned orthodox writer in a blase Eastern bee-paper recently spoke about the necessity of hiving bees in a jiffy. I have searched all the catalogs diligently, but can find no mention of, nor price fixed on 'jiffies.' I am experimenting and spending money on all the Eastern plans and appliances, and would be willing to try this method if I could only learn what supply house is offering the article for sale."—Jno R. Ragle, in American Bee-Keeper.

## Likes "Forty Years Among the Bees."

"I have recently read Dr. Miller's 40-year book, and I wish the young fellow would hurry and write two or three more, as this one is entirely too short; or perhaps it is so interesting that one reaches the end too soon. Well, I shall read it over again, anyway, and more slowly next time."—Jno. R. Ragle, in American Bee-Keeper.

This book is sent postpaid for \$1.00; or with the American Bee Journal one year—both for \$1.25. Send all orders to this office.

## Successful Breeding in the Cellar.

In The Canadian Bee Journal, Mr. Grosjean says this:

"I had one very light colony. There were not more than 3 or 4 pounds of honey in the hive when I took them into the cellar. It was very full of bees, and I did not like to disturb them in the cellar. I could not find any frame but what was covered with bees, so I took them and fed them about 15 pounds of one-third sugar. It was buckwheat honey. I made it warm and took it down the cellar and fed them. I looked at them a day or so afterwards and they were quiet. Then I made up my mind that should do then till the spring, but

I found I had to give them more later on, and they were the best colony I ever had. I got 40 to 50 pounds more honey from them than from any other colony."

## Melting Honey in Cans.

"In regard to liquefying honey in 60-lb. cans, I would say that, after putting the can in the water, you must remove the cap and press the top of the can down to the honey by striking the top of the can with the palm of the hand, thus forcing the air out; then put on the cap and screw down tight; leave in the water until it is all liquefied, then remove and let it stand until cold before removing the cap, and you will have no over-flow, no burst cans, no foam, and no loss of aroma."—ELIAS Fox, in Gleanings.

## Hunting Bees in Texas.

I hunt bees for recreation and to save swarms that would starve if left in the tree and take a chance on the possible profit, and I have driven into the country in the fall and brought home swarms where others had cut the trees, robbed the bees of their honey, and left them to perish. Two years ago I wintered ten swarms that I took from trees, mostly of my own finding. My method is this:

I have a box made of thin boards, 17 inches long, 11 inches wide and 6 inches deep, with 3 very thin boards 5 inches wide, slipped inside between thin cleats tacked inside the ends (wooden combs or dummies), for the bees to cluster on, with half-inch space at bottom and top, so as not to crush the bees and allow them free passage. The cover is thin boards with half-inch cleats on each side to slip down over the top of the box, with four 1½-inch holes, one near each corner, with wire screen tacked on under one side to give plenty of air, cover fastened on with a wire hook and a screw-eye at each end, and a strap firmly nailed across the top for a handle to carry it by. Then I bore a 1½-inch hole in the center of one side at the bottom, and this is closed with a little sliding gate that also has a 1½-inch hole in, covered with wire screen. This box, by taking the three division-boards out of the cleats and laying them in one



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side of the box, makes room for a whisk-broom, smoker, and honey-knife; and when thus packed I slip it under the buggy-seat with my ax and hunting-box, and set a lard-can with the cover on, in front of the seat, and hitch up my team, and away I go to some place favorable for bees; and, after getting permission from the land-owner, I usually put my team in his barn and feed them, and away I go with hunting-box to attract the bees so I can trace them; and when I find the tree I return to the buggy and get my outfit and cut the tree by falling it on to some small tree to break the force; blow a little smoke in at the entrance and chop in two cuts and split off one side; then I set my box on the log, close it, and proceed to take out the combs and brush the bees in front of the entrance (always making sure to get the queen in); and in they go. I cut the honey out and put it in the can and put the empty combs and brood on top of it and put on the cover and wait an hour or so for the flying bees to get in the box.

When I get home I fit up a hive with honey, cut out some of the old combs, and insert the brood in the combs, jar the box down on the ground, which loosens the bees from the cover which I remove, and dump the bees in front of the hive, and in they go.

I have eight swarms thus taken last fall (the last one Nov. 28); all are apparently in fine condition and perfectly contented. Out of the eight, only three had enough honey to have wintered them. I have had but one man refuse to let me cut a tree, for I usually divide the honey with the owner of the land.

I enjoy hunting any and all kinds of game; but there is a fascination about bee-hunting that I find in no other kind. I like to watch them as they cautiously at first approach the box; then, after filling themselves, watch the zigzag circles they describe before they make straight away.—ELIAS FOX, of Wisconsin, in *Gleanings in Bee Culture*.

### Is Honey a Luxury?

This question possibly involves the question why so little honey enters into the menu of our everyday life. We have grown into the habit of treating it as a luxury rather than one of the necessities. We have entirely forgotten that it is both food and medicine, and that the little ones who eat honey every day have less craving for those sweets which are injurious to their health, and that they are less liable to the ailments so incident to the lives of children; that the visits of the family physician are few and far between in the families where honey enters into the every day diet.

Our grandmothers understood that cakes sweetened with honey remained moist and were palatable for a long time after those sweetened with sugar were too stale to be eaten. The reason for this is that honey has a wonderful affinity for moisture, and that instead of drying out and becoming worthless they grow more moist with age.—C. M., in *Rural Californian*.

### Varieties of Wild Bees.

Some people think there are only two or three kinds of bees—the honey-bee, the bumble bee and possibly one kind of smaller wild bee. So far is this from being true, that no less than 1878 different species of wild bees have been described from North America; that is, including all the country north of Panama, up to the present day. When we come to study the habits and structures of all these bees, it is possible to understand why they are so numerous in kinds.

The pollen of flowers has to be carried by insects; that of one flower to other flowers of the same sort in order to bring about the fertilization and production of seed. Of all the insect carriers the bees are the most important. They visit the flowers for nectar and pollen, to store up in nests for their young, and when so doing they carry the dust-like pollen from flower to flower, leaving a little of that previously gathered each time they alight upon a blossom. Now suppose all bees visited indiscriminately every sort of flower, it would continually happen that the pollen of one species of plant would be left on the flower of a quite different species, where it would be altogether useless. It is desirable, therefore, that each kind of bee should visit one particular kind of plant, or at least should prefer certain kinds. This we find to be more or less the case, and there are many bees that never visit more than one sort of flower.

The number of different kinds of flowers is very great, and consequently it is not surprising to find that there are many sorts of bees. In numerous instances we find the mouth-part of the bees exactly suited to the kind of flowers they visit. Thus certain kinds with very long tongues can suck the nectar from long, tubular flowers, such as the yellow-flowered currant, while others with short tongues can make use of shallow flowers. It is the case of the fox and stork over again.

Although the described North American bees are so numerous, it is practically certain that we do not know half of those existing. Indeed, it is not impossible that the North American continent, with the West Indies, possesses as many as 5000 species. In New Mexico, up to today, 508 species have been found, and of those I have been able to describe 315 as new. The discovery and description of new species is, however, only the beginning of the work.—*Rural Californian*.

### Breeding from Best Honey-Gatherers.

Dr C. C. Miller says this in *Gleanings in Bee Culture*:

"It may be remembered that for several years I had been breeding from queens whose colonies gave largest crops, with least inclination to swarming, regardless of color, my bees being hybrids with Italian blood predominating, but with evil tempers, and that last year I got 10 Italian queens with the expectation on the part of a certain editor, as also a strong desire on my part, that the best of the 10 would turn out to be equal to the best of my

hybrids. The past season was not one which allowed a big yield from any colony, white clover blooming freely but not yielding—at least till late in the season, and not much then—but later on I had a fair flow of white honey from other plants, allowing a fair chance for comparison. The Italians seemed in the lead at building up strong, and I think they held that lead throughout the season. But they didn't seem to take hold at storing with the same vim as the hybrids. No. 34 was the best of the Italians, and it produced 96 sections. The best of the hybrids was No. 211, which produced 168 sections, or 75 per cent more than the best Italian. I don't think that shows that Italians in their purity are poor, but that persistent selection for years in breeding from best honey-gatherers without regard to color has materially increased the yield of my hybrids. The question is whether I might not have done as well to have adhered rigidly to the pure bloods. At any rate, if I had it to do over again I think that's what I should do. Another question which immediately confronts me—and I'd give a good deal for the right answer—is this: Shall I give up the fruit of years of selection, and start in afresh with pure blood, or hold on to my big yields and live among hornets?"

Editor Root comments on the foregoing as follows:

"Better keep on breeding those 'hornets.' If there is a difference of 75 per cent between them and the gentler strains of Italians, you can well afford to wear a veil and wear bee-gloves, because the mere matter of stings can not compare with one of dollars; and, after all, one can put on enough armor so that he would suffer no great inconvenience, and on the other hand he has the comfortable assurance that no mischievous boys or petty thieves would meddle with the hives.

"At one of our outyards, when we had been having some trouble from meddlers, we put a very cross colony at the front entrance of the yard. We afterward learned that some boys concluded they would help themselves to some honey. They 'tackled' this particular colony because it was right handy. An eye witness described the events that followed as something really funny. The boys ran only because they couldn't fly. Of course the one season should not be regarded as a final test between those hybrids and Italians. We hope Doctor, you can continue experimenting for several years, at least. In the meantime we are of the opinion with yourself that, if you had devoted the same time and thought on a pure strain of Italians, you would have secured practically the same results so far as honey is concerned. Mr. Alexander believes that he has pure stock that will equal any hybrids, besides their being much more pleasant to handle."

### Apiarian Pictures

We would be glad to have those who can do so, send us pictures of bee-yards, or of anything else that would be of interest along the line of bee-keeping.

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Send Questions either to the office of the American Bee Journal, or to  
DR. C. C. MILLER, Marengo, Ill.  
Dr. Miller does *not* answer Questions by mail.

## Swarming—Sections in the Brood-Chamber.

1. Suppose in swarming time my colony A swarmed once. Two or 3 days afterwards colony B swarms also. While this B swarm is still hanging on the tree I go to A and cut out all queen-cells, insert 2 fresh, empty combs in the center of hive, and then get the swarm on the tree and put it into A. Will it work all right, or will they swarm out again?

2. Will it work better if A has swarmed twice or even three times, or does it make no difference? My idea is to keep down increase and at the same time put A to work in the super. Of course I should treat B the same way if I had a swarm from C, and so on.

3. What do you think of putting sections down into the brood-chamber, say perhaps 2 framefuls on each side?

NEW YORK.

ANSWERS.—I. I don't know. I think it would work sometimes and sometimes not.

2. I think it will make a decided difference, whether a second swarm issues from A or not. If you hive swarm of B in it a week or more after the prime swarm issues from A, there will be less danger of swarming out than only 2 or 3 days after.

3. The plan is not used as much as formerly, if indeed it is now used at all. If you leave the sections below to be finished, you are likely to have pollen in them, and also to have the capings darkened. When sections have been put below it has generally been merely to get the bees started in them and then to put them up. But it is hardly advisable to put them below at all.

## Sweet Clover—Keeping Bees on Shares.

I see you have experimented with sweet clover, and I would like to have you tell me about it.

1. What are the objections to it?  
2. How would it do to put it on poor, bare spots in a pasture?  
3. Would the stock keep it eaten down till it would not spread?  
4. Forty miles southwest of Springfield, Ill., I have 60 acres of apple-trees just coming into bearing, and I think of starting some bees. As I farm by proxy what should I do for a start, and how can my man learn what to do? I shall give him half the surplus honey to pay him for the care of them. All I

know is what I would like to have the bees to pollinate the fruit-blossoms. I don't know how many, what kind, when, or anything about what I should have. There are bees about 2 miles from my place, but I believe they have too many blooms to the bee.

ILLINOIS.

ANSWERS.—I. The objection to sweet clover is the same as to red clover or any other plant that may be in a place where it is not wanted. On the roadside, where wheels carry the seed along, it will spread many a rod in a few years, but in a field it will spread very slowly, and it is perhaps no harder to kill out than red clover. Many value it as pasturage for horses and cows, or for hay. Perhaps it would not be a bad answer to your question to say there is no objection to it, for the objection given may also be made to any of the clovers or grasses.

2. It will do all right; only if the pasture be poor, forcing stock to eat it down too close, the young sweet clover plants may be killed out.

3. I'm not sure what you mean by that question. If you mean, would the stock keep it eaten down so that it would not spread as much as you desire, so as to have the bare places filled up, I would say that unless pastured down quite close the first year, the likelihood is that there would always be enough blossoms and seed left to keep the ground seeded down fairly well. For you will understand that it needs constant reseeding, being a biennial, coming from the seed the first year, blooming the second year, and dying root and branch the following winter.

If you mean to ask whether the cattle would keep it eaten down enough to keep it from spreading on adjacent ground where not wanted, the probability is that the cattle would make no difference, unless they should be able to kill it down altogether. But as already said, it is not a rapid spreader in fields.

4. The easiest way to make a start would be to buy 2 or 3 colonies of bees from some one near by, so as to avoid charges, and if you can not do that to buy nuclei or full colonies from some one farther away.

If you have to send away, get Italians; if you can get them near by, you needn't be so particular; get any kind you can, and you can change the breed afterward.

I said get 2 or 3 colonies. That's the stereotyped advice for a beginner; begin on a small scale, and any mistake you make will not be very expensive. In

your case it may be better advice to say at least 5 or 6. For if no bees are within 2 miles, you can count on very little help from outside to fertilize your blossoms, and it may pay richly in the matter of better fruit crops for you to buy a larger amount of bees even if they all die the first winter.

For any sort of success with bees, it will pay well to spend a dollar or so for a good book on the subject, and the small amount of 50 cents for the American Bee Journal will also be a wise investment.

## Some Prime Essentials in Bee-Keeping.

I would like your opinion as to whether the matter in that article on page 724 copied from the Dallas News is entirely reliable. KENTUCKY.

ANSWER.—When I first read the article to which you refer, I made the mental comment that Mr. Robinson had not only written a very readable article, but that it was also quite reliable, much more so than a good deal of the matter published about bees in publications other than bee-papers. Now that I have read it over again I see no reason to change my view in general; only that for the sake of strict exactness some little items might be changed, although for the sake of brevity Mr. Robinson may not have thought it worth while to be so very exact.

Mr. R. says the dovetail hive "is made of such dimensions as to contain 8 or 10 frames, known as the Hoffman self-spacing frame." That is strictly true. It would have been equally true if, instead of saying Hoffman frames he had said Miller, or Langstroth, or any other frames  $17\frac{1}{8} \times 9\frac{1}{8}$  outside measure. The trouble is that as Mr. R. has expressed it, some may suppose that only Hoffman frames are used in dovetail hives. While the Hoffman frame is largely used in dovetail hives, there are many using dovetail hives who could not be induced to use the Hoffman frame.

If one desires to be very critical, one might take exception to the statement that in a frame of comb "there are 25 cells to the square inch." Of course Mr. R. knows there are less than 25 cells to the inch in drone-comb, and even with worker-comb there is variation. Worker foundation has not always been made with cells of the same size and where bees build worker-comb without foundation there may be less than 25 cells to the square inch, or there may be more.

If a rule be laid upon a worker-comb, without being very exact one will be likely to say there are 5 cells to the linear inch. It must be remembered, however, that 5 cells to the linear inch does not mean 25 cells to the square inch. That would be correct if the cells were square, but into the same space there can be got more hexagonal cells than square ones. Cheshire, Vol. 1, page 176, gives it as 28 13-15 to each square inch.

Now comes a rather serious error, evidently from carelessness in making the wrong figure. Mr. R. says: "A frame contains 136 square inches of surface, and as there are 25 cells to the



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square inch, you have 2400 cells to the frame." Of course that "2400" should be "3400," and instead of 48,000 cells for 10 frames there would be 68,000, all on the basis of 25 cells to the square inch.

If, instead of 25, we figure on 28 13-15 cells to the square inch, we will have 78,517 cells, instead of 68,000, in the 10 combs—quite a difference. It is quite possible, however, that the smaller number may be nearer the truth, for good bees may not be satisfied, if left to themselves, to build cells as small as 5 to the linear inch.

### Hybrid Bees and Italians.

I see that you and Miss Wilson still insist that hybrids are the best honey-gatherers. Yours must be different from any I ever get.

This year was a poor one. June 10 I had 75 colonies all in poor condition, some with brood half dead, chilled, and starved. Sixty colonies are pure Italian and 15 are hybrids, first cross, as I keep mated queens only one year, never allowing them to swarm or supersede. I keep pure drones. The hybrids I run for extracted honey and Italians for comb. The result was, the hybrids stored from 25 to 60 pounds extracted honey being supplied with empty combs; the Italians stored from 40 to 96 pounds of comb honey and gave 15 percent increase. From those 15 hybrid colonies I got more stings in one day than from the 60 Italians all summer. In 1903, 1904, 1905, I had a queen that I believe was equal to Root's famous Red Clover queen. This is a poor locality, yet she gave me over 500 pounds of surplus honey in those 3 seasons. I also got 10 daughters from her. Seven were mated. All proved poor honey-gatherers. The 3 purely mated were fair but nothing compared to their mother. I had another queen those 3 years that did not give one ounce of surplus, and 2 falls I had to feed her colony. I got 3 daughters from her. All mated pure, and, strange to say, they are the ones that produced 96 pounds this year. So you see as long as my neighbors keep black and hybrid bees I can't accomplish much by breeding from best stock. With me the first cross will degenerate 40 percent, as honey-gatherers; and blacks never give any surplus here.

I had a colony of hybrids that annoyed me so this fall that I killed the queen and gave them an Italian in a cage, letting cork be over the candy 3 days. On releasing her they killed her. I removed all their brood and gave them another queen, leaving the cork over candy 2 days. They killed her. I pounded them up then till they gorged themselves with honey, shook them in front of the hive, and let another queen run in with them. I found her dead the next day. I looked for some brimstone then, but failing to find any I set them on top of the strongest colony in the yard, hoping to see them strengthened, but not a bee killed. NEW JERSEY.

ANSWER.—Please allow me to say that you misunderstand my position, in which you are not alone. Instead of saying that hybrids are better than pure

Italians, I have in general advised pure Italians. One prominent writer across the water, for whom I have great respect, hints at inconsistency on my part for advising pure Italians while myself keeping hybrids.

As a fundamental starting point, let me say that all Italians are not alike. Some are better than others. The same is true of blacks and hybrids. Another thing commonly accepted as true is that introduction of fresh blood is likely to give new vigor. So when Italian blood is introduced into an apiary of blacks, the introduction of the fresh blood is an advantage, without reference to the question of whether Italian or black blood will secure hybrids that will be a great improvement on his blacks. Indeed, in many cases the hybrids are found to be better than either black or Italian blood in its purity, just because of the fresh cross.

But now comes in an item not so generally recognized as it should be, and that is, that a cross of Italian and black blood is not so reliable to perpetuate its characteristics as the pure strain of either kind. With the pure strain you are likely to have offspring of the same kind as the parents, while with the cross, things seem to be split up and go in all sorts of directions.

I'm not sure that I have put these things in language scientifically correct, for I'm not a scientist but only a common bee-keeper, but I think my statements are not far out of the way.

So much for theory; now let me turn to practise, and say what I have done.

Some time ago I began keeping close tally of the amount of honey secured each year from each colony, and I can, at the present moment, by referring to the records, tell what any particular colony has done for a number of years past. At the same time I began breeding from the colonies giving best yields, paying little attention to the matter of color. As a result I have today bees that are hustlers at honey-gathering, although there is some black blood in them, and the past season these hybrids, in competition with pure Italians that were considered choice stock, showed themselves superior by the fact that the best colony of hybrids stored 75 percent more honey than the best colony of pure Italians.

Does this prove that hybrids are superior to pure Italians? By no means. It does prove that years of care in selecting has given me some very energetic hybrids, but the question remains whether I might not have had still better results if I had all through those years held to the pure blood. With pure-bloods I feel pretty sure I would have had better temper, for some of my hybrids are exceedingly vicious. And the likelihood is that my mixed blood will more easily go wrong in its posterity than would pure-bloods.

Frankly, I am very much afraid I have made a mistake in not sticking to pure blood, and if I had it to do over again I think I would be careful to keep out black blood, unless I could have, as they seem to have in Switzerland, blacks that are better than Italians, and in that case I would stick to the black blood.

Mr. J. E. Crane gets good results by pursuing a different course. He constantly brings in fresh Italian blood of pure stock, allowing the young queens he rears to be fertilized by his hybrid drones. But you see that is quite a different course from continuously breeding from hybrid parents on both sides. Indeed, if he rears his young queens always from pure mothers, will he not be constantly approximating pure stock, while at the same time having always the advantage of the introduction of fresh blood?

Now let us see how it is with your bees. You find that the pure-bloods surpass the hybrids. Nothing unusual about that. Indeed, I think it is the general rule. The fact that carefully selected hybrids may be better than pure-bloods not so carefully selected by no means conflicts with the possibility that hybrids in general are inferior to pure-bloods; and so there is no inconsistency in my advising to breed for pure blood, nor indeed in my following my own advice.

Your experience in having a colony so determined not to accept a queen, while not common, is very trying. Sometimes you may bring such a colony to terms by moving it to a new stand so it will lose its field-force by their uniting with other colonies.

### Oil-Cloth for Winter Hive-Protection.

I am trying to winter my bees on the summer stands, and have pasted oil-cloth on all sides and the top of the hives, except an opening on the front side. Will this offer enough protection for southern Kansas?

A SUBSCRIBER.

ANSWER.—Likely it will; especially if buildings or timber break the winds from the prevailing direction.

### Moving Bees to Northern Michigan.

Will you advise me in regard to moving bees as far north as Ontonagon County, Michigan? Will they stand the cold climate there? and would they produce honey enough to pay to take them there? Are bees kept as far north as the above?

MICHIGAN.

ANSWER.—Oh yes, bees have succeeded farther north than that. The only question is to find a place where there is good pasturage. There are places in northern Michigan that are counted extra good because of the acres of raspberries or fireweed.

### Caucasians vs. Italians as Honey-Gatherers.

Are the Caucasian bees as good honey-gatherers as the Italians? Are they more gentle to handle?

A SUBSCRIBER.

ANSWER.—Reports as to the character of Caucasians are very contradictory. There is probably no question that at least some of them are the very gentlest bees known; but some others are reported as no better-natured than Italians. As to their gathering qualities, reports, on the whole, hardly place them as equal to Italians.

### Points in Judging Comb Honey.

What are the points considered in judging comb honey? Are they only taste and color? Should a section of honey with section all white and clean, evenly capped, built out well in the corners, and clear honey, be turned down for one daubed with bee-glue on the section, and unevenly capped, for a small difference in flavor? The question is: Is it only flavor, and how strong is the point of flavor?

ILLINOIS.

ANSWER.—I don't know how to answer from the standpoint of a judge, as I never did any professional judging, but I may say that for my own use, if I were buying honey, the

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quality of the honey inside the comb would outweigh everything else. Even if the capping were all black with travel-stain, I wouldn't mind that if the honey itself were all right. But I can't judge honey that way when I'm putting it up for the market. The whiteness and beauty of the outside seem to be the chief things for the market. Perhaps the editor, who has had experience as a judge at the Illinois State Fair will tell us something about it.—[Appearance, uniformity of capping, etc., are considered as well as flavor. Perhaps Mr. N. E. France will give us something on this.—EDITOR.]

## Hauling Bees Before Cellaring Them.

Would bees winter well after being hauled about one mile to be cellared, all other conditions being favorable? I can not find an answer to this question in any of my text-books (of which I have 3), as bees moved home from out-yards are moved a sufficient distance so that they may be allowed a flight, and then put in the cellar without any disturbance, as may also those whose summer stands are close to winter quarters. MAINE.

ANSWER.—What little experience I have had in this direction has been unfavorable, but others have reported moving bees one or several miles, putting them directly into the cellar without any flight, and no bad results followed.

## Doubling an Apiary and Securing Honey.

I have 41 colonies of bees. Can I make 80 colonies next year, and secure much of a honey crop for 1908? KENTUCKY.

ANSWER.—That depends. In a poor year, with a poor location, you can't make it. In a good year, in a fairly good location, you ought to make it easily.

## Sulphur Cure for Bee-Paralysis.

Last summer I had one colony of bees that became affected with paralysis. The symptoms of this disease were so plainly marked that there could be no mistaking it for some other disease.

It occurred to me that I had read in some bee-paper that Mr. Poppleton claimed that sprinkling the combs of bees thus affected, with pulverized sulphur, would cure the disease.

I tried to look the matter up, but failed to find anything in the bee-papers to support my recollections. However, I tried the sulphur treatment as I remembered it, and to my great surprise, the disease disappeared in a short time. Was this the result of the treatment, or had the disease run its length? CALIFORNIA.

ANSWER.—In the North—at least as far north as northern Illinois—the disease is pretty certain to disappear of itself in a short time; and so whatever means were last used before the disappearance is likely to get the credit for the cure. Indeed, the disease is of so little importance that it is not worth while to consider it very seriously. In the South, however, it is a very different matter, and I should suppose that in California you would have it more as it appears in Florida than as it appears in Illinois, and that it is not likely to disappear of itself. On that ground my guess would be that the sulphur had something to do with its departure.

## Transferring Bees.

I recently bought 3 colonies of bees in home-made box-hives, and wish to have the bees transferred into up-to-date, modern hives, but do not know the inside dimensions of hives mostly used in Canada.

1. What is the difference between the standard size frame of the British Bee-Keepers' Association and the one in use here—the Langstroth frame?

2. What is the best method to adopt in transferring bees from a jumble-up, crossway, and every other way box, into a movable-frame hive? BRITISH COLUMBIA.

ANSWERS.—1. The British standard frame is 14x8½ inches, outside measure; the Langstroth 17½x9½. The comb surface in 5 British frames is something like that in 4 Langstroth frames, the exact ratio depending on the thickness of the different parts of the frames.

2. The very best way is to wait till the colony swarms, and have the swarm in a hive whose frames are filled with worker foundation, setting the swarm on the old stand and the old hive close beside it; then a week later

move the old hive to the other side, and then 2 weeks later still (3 weeks after having the swarm) to cut up the old hive, add its bees to the swarm, and melt up the old combs.

If it be desired to have increase, then leave the old hive on its own stand, set the swarm on the new stand, and 3 weeks later cut up the old hive and brush the bees into a new hive with frames filled with foundation.

The point is that by leaving the combs undisturbed in the old hive for 3 weeks all the worker-brood will be hatched out, so there will be no loss of brood. Of course, if you are anxious to save any of the old combs that are straight enough for that purpose, you can fit them into frames at the time you cut up the old hive.

## Disposing of a Laying-Worker Colony—Bait-Sections.

In "Forty Years Among the Bees," you say a colony of laying workers should be broken up and the combs distributed among other colonies, and that the bees are old and of little value.

1. In what way would it be doing any good to give a good colony one of those combs of worthless bees and drone-brood?

2. In another place you say that after the feeder sections have been cleaned out by the bees, the best of them are saved for "baits" in the supers the following season.

3. Why are they not all good to use the following season?

Since I began studying your book, 2 years ago, I have been able to keep the bees together and get twice as much honey as I got before. I have 87 colonies of bees. I began in 1899. PENNSYLVANIA.

ANSWERS.—1. While these old bees are of little value, they still have some value, and that value may as well be utilized. We are told that a worker in the busy season lives to be about 6 weeks old. Now suppose we have some bees that are 4 or 5 weeks old. They have yet a week or two to live, and they are good as field-bees for that length of time; so if given to other colonies they will finish up their lives in a useful way, doing more good than if you try to tinker up the colony with a young queen. To be sure, you might give a queen, together with brood, and enough young bees to make a fair colony, but these old bees are exceedingly loth to accept a queen, and you'll be likely to lose her. Better break up the colony, and then start a new one elsewhere.

2. Not until your question has called my attention to it have I ever noticed how misleading is that sentence, "The best of these emptied feeders furnish 'baits' for the following season." I don't wonder at your asking the question, for it sounds as if only a few were good enough for baits. The fact is that nearly all are so used, only those being rejected that are objectionable for any reason, such as being built crooked or being darkened. But those rejected are very few.

It does me much good to know that you find "Forty Years Among the Bees" so useful.

## Supers and Sections—Queen-Rearing Book.

1. Do you consider the Ferguson super advertised in a Western catalog worth introducing on a large scale?

2. Is the 4x5 section, in your opinion, bound to stay? Would you change from a 4¼ out-fit to the 4x5?

3. Do you prefer bee-way sections to plain, and why?

4. A few days ago I broke up a queenless colony in a box-hive. The combs contain very little honey, but much pollen. Will it pay to fasten them into regular frames to be used in spring in place of empty combs?

5. What book do you recommend on queen-rearing? NEW YORK.

ANSWERS.—1. I don't know, as I don't think I ever saw the said super, and do not now recall that I have seen a description of it.

2. Hard to say; although with some it is likely to stay. I have tried some other sizes than 4¼, and tried them on a pretty large scale, only to come back to the 4¼.

3. I prefer bee-ways because they are more easily handled without danger of thrusting the fingers in them. Although I might never jam my fingers into a plain section, the danger comes when the retail grocer handles them. But even while in the bee-keeper's hands, they must be handled with more care, which means more time. A plain section tumbles over more easily than a bee-way section. A plainer, cheaper separator goes with the bee-way. On the other hand, it takes a smaller case for plain

than for bee-way sections, although it's easier to lift the bee-ways out of the case.

4. It will probably pay, and will pay big, if there is a scarcity of pollen.

5. Doolittle and Alley are both good, but if I may be pardoned for such immodesty, I may say that for the mere honey-producer there may be nothing better than "Forty Years Among the Bees."

## Position of Frames in Spring.

Please explain to me how I should place my frames in the spring to obtain best results. I use the alternating 16-frame hive, and do not extract. Commencing at the upper right hand I number the frames "1" to "16." In the spring I find No. 1 and No. 8 solid with honey; 2 and 7 honey and brood; 3, 4, 5 and 6, brood; 9 and 16, old honey; 10 and 15, pollen. The rest of the frames are generally empty combs. This is not the exact condition, but nearly so. Should I alternate and place an empty super under all? NEBRASKA.

ANSWER.—If I understand correctly, you have a 3-story hive, each story containing 8 frames equivalent to 9 Langstroth frames, these frames being numbered by you 1 to 8 in the upper story, and 9 to 12 in the lower story, and your question is whether you shall make these 2 stories alternate, or exchange places, and put an empty section-super under all. In any case the section-super should not be placed under, but above. To alternate the stories and leave both during the harvest would hardly result in best super-work unless with an exceedingly strong colony, for it would be equivalent to leaving the colony 18 Langstroth frames. Only one story should be left for the harvest. The best results will be obtained by leaving in that story the best frames of brood from each story, provided you have no fear of the colony swarming or wish it to swarm. If you do not want it to swarm, then leave the 8 frames containing the least brood, which will be somewhat in the nature of shaking a swarm.

## Advantages of Association Membership—Fastening Comb Foundation, Etc.

1. What object is it to belong to a bee-keepers' association? What is there in it for the man who pays his dollar?

2. Is there an association in Minnesota?

3. How do you fasten foundation in shallow extracting frames so that the bees won't tear it down?

4. I had a colony of bees that would not work in sections nor in extracting combs dropping with honey. What was the trouble?

5. Where can I obtain queens and not get a disease among my bees?

6. I put 20 colonies in the cellar a year ago and took out 11 colonies in the spring. From those 11 colonies I secured 200 pounds of comb honey and 800 pounds of extracted honey. Did I do well? MINNESOTA.

ANSWERS.—1. One of the advantages—and it is a great advantage—is the meeting of other bee-keepers to talk over matters connected with bee-keeping. Perhaps you have learned some new thing of advantage, and it is a pleasure to give it to others. Others may have learned something that will be of advantage to you to learn. To be sure, we are all the time getting these things from bee-papers, but there are some very good bee-keepers who can be induced to talk at a convention who do not write for publication. If there is any point upon which you have had trouble, it is an advantage to be able to ask about it, and to hear it discussed by those present. Bee-keepers are a sociable lot, and it is a pleasure to meet so many in one place and shake hands with them. Many of the smaller societies have arrangements by which membership in them secures membership in the National Association without additional payment. It would be a long story to tell all that the National has done. It has helped a goodly number who were threatened with trouble by unkind neighbors. Quite a number of them would have been obliged to move their bees, or else to go out of business. The National and the State Associations have had their influence in securing proper legislation, and perhaps to some extent in advancing prices of honey.

2. I am not sure. If there is no local association convenient, you can become a member of the National by sending \$1.00 to General Manager N. E. France, Platteville, Wis.

3. If top-bars are made with saw-kerr and wedge, it may be sufficient to insert the edge of the foundation in the groove and crowd in the wedge. If top-bars are not thus made, the foundation may be fastened to top-bar by running melted wax along the joint. Additional



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security may be had by the use of wiring or foundation-splints, and for any depth greater than 4 or 5 inches it will be better to have this additional security.

4. I don't know. Possibly there was room enough in the brood-chamber in proportion to the strength of the colony, so that they didn't need to use any room above.

5. You ought not to get disease by getting queens anywhere, for an honest man who has foul brood ought not to send out queens. It is generally understood that a queen alone can not convey the disease, so if you are at all in doubt, when you get a queen, put her in a new cage, and burn up the old cage, candy, bees, and all.

6. Wintering over 11 colonies out of 20 was not doing very well. Getting an average of 90 pounds per colony was doing well. Just how well depends upon what others did in the same locality; in other words, it depends upon what kind of a year it was. If only an average year, it was doing very well.

## Transferring Bees—Requeening— Peach-Belt Location for Bees.

1. I am just starting in bee-culture, and want a little advice. I bought 6 colonies in box or native made hives, and want to transfer them to proper hives with supers. How shall I do it?

2. In the spring I want to give them Italian queens and destroy the queens already in the hives. How shall I do it?

3. We are in the great peach-belt, having within a radius of 4 miles 900,000 bearing peach-trees. It seems to me to be an ideal place for bee-culture. What do you think of it?

MISSOURI.

ANSWERS.—1. Pardon me if I begin by giving some advice not asked for. I most strongly advise you to buy a book of instruction on bee-keeping that will, I am sure, pay more than 100 percent on the investment. Indeed, that is putting it altogether too mildly, for before the next season is over the probability is that by a study of such a book you will save its price several times over by avoiding mistakes you would otherwise make. Answering your question, however:

1. You will, perhaps, do best to let the bees stay in the old hives till after they swarm, having the swarms in movable-frame hives. Then 3 weeks after that you can cut up the old hive, and there will be no loss of brood, for at that time all the brood will have hatched out, unless it be a few drones. If you desire no increase, you can brush all the bees off the combs, after cutting up the hive, and melt them up for wax. But as before intimated, you will do this, as well as anything else with bees, in a more satisfactory manner after giving the whole subject some study with the aid of a text-book. If anything in that is not clearly understood, this department is exactly the place to ask questions about it.

2. It would be rather difficult to do anything in the way of changing queens while the bees are in box-hives. After they are in movable-frame hives you can hunt out and remove the old queen, and put the new queen (caged) in the hive. The cage in which the new queen is received will have printed instructions for introducing sent with it. Some prefer to put the caged queen in the hive before taking away the old one, leaving both queens in the hive together for 2 or 3 days.

3. Such a big lot of peach-trees must be a fine thing for the bees, but you mustn't count on it as an ideal place unless you have something else to depend upon. The peach blooms early, and is of great value to help colonies to build up, but I suppose it is something like the apple in this locality where we are too far north to have peaches. The bees revel on the apple-bloom, but it comes so early that bees are yet too few to gather very abundantly, and what they get from apple is pretty much all used in rearing brood. If you could have the blooming of the peach continue longer, so as to have 4 or 6 weeks from the beginning of the earliest to the close of the latest, it would be a different thing, but I don't suppose peach-bloom lasts so long.

## Afterwards—Changing from Heddon to Langstroth Frames.

About 2 years or more ago I purchased your book entitled, "Forty Years Among the Bees."

I find it very instructive and often refer to it. I am an old veteran of the Civil War. My son and I are engaged in farming, bee-keeping, fruit-growing, and poultry-raising. I have kept bees with varying success for 45 years on a small scale, as a side-line to farming, etc. I use the Langstroth and Heddon hives. I have 12 good colonies of bees, mostly Italians. I

like the Langstroth hive the best, as it is more convenient to get at the queen-cells to cut them all out except after they have cast their first swarm, as I find that unless I lift out every frame of the divisible Heddon hive for that purpose, I do not find all the queen-cells in every instance. Consequently I am often bothered with after-swarms.

I have 10 Heddon hives in which I wish to substitute the Hoffman frame for the two sets of shallow frames, as I find that this hive will take 8 of them, allowing room for a thin dummy or follower, but there is about 2 inches space between the bottom of the frames and bottom-board. What would you advise me to do with that? The bee-space between the ends of the frames and hive is just wide enough for a bee to squeeze through. I would dislike to throw these hives away, as they are sound and well painted. I have about half a crop of comb honey this season. I wish I had run them for extracted honey, as I would have got about twice as much as I did. I get 15 cents per pound for my comb honey.

My bees had a good flight about a week ago. Yesterday I put 3 colonies in my house cellar, which is dry. They are very uneasy now (Dec. 4). I have chaff cushions and Hill's device on top of the hives. I think they will quiet down as the weather grows colder, as I have the cellar well ventilated and darkened. The bees are up  $2\frac{1}{2}$  feet from the cellar bottom. Two are in Langstroth and one in a Heddon hive. The rest are in chaff hives outdoors.

MICHIGAN.

ANSWER.—I anticipate that the greatest trouble in the case will be the small space between the end-bars and the ends of hive. You say a bee can just squeeze through, and if there is any real squeezing in the case the bees are likely to fill the space with glue, although it is not so bad in that part of the hive as in other places. There are two ways you can proceed with reference to that 2-inch space at the bottom.

First, you can saw off enough at the bottom to make the depth suit you.

Second, you can leave the sides and back just as they are, and saw out 2 inches or so from the bottom at the front.

If you take the second way, you can not use the hive for a second story, but it will work all right for a lower story. If you want to tier up you will have to take the first plan, or at least you must take the first plan for any that are to be used as upper stories. If you take the second plan you will have something like a 2-inch space under your bottom-bars, and that's just what I have, only with mine the 2-inch space is in the bottom-board. That deep space is a splendid thing in winter, but of course if it is left during the harvest the bees will build down into it; so you must have it filled in some way during the time there is any danger of building. One way is simply to slip under a board that is 2 or 3 inches narrower than the inside width of the hive, and 2 or 3 inches shorter than the inside length, tacking 2 little sticks on the under side if needed to raise it within  $\frac{1}{4}$  or  $\frac{3}{4}$  inch of the bottom-bars. Even an inch space is not likely to make any trouble. A better way is to use a sort of rack instead of the board. Take 3 sticks, each perhaps  $2\frac{1}{2}$  inches shorter than the inside width of the hive, one for each end of your rack and one for the middle. They may be  $\frac{3}{4}$  to  $\frac{1}{2}$  inch in thickness, and  $\frac{1}{2}$  to 1 inch wide. Upon these nail thin strips about  $\frac{3}{4}$  inch wide, with a space of  $\frac{1}{4}$  to  $\frac{3}{4}$  inch between each 2 strips. Turn the thing over, and nail the same kind of strips on the under side, only let them break joint with the strips on the other side. Wooden separators will do for these strips. On the under side you will nail 2 sticks running lengthwise that shall be thick enough to leave a space of  $\frac{3}{4}$  to 1 inch between the rack and the bottom-bars. This will give you the advantage of fine chance for ventilation during harvest, and at the same time will not allow the bees to build down. I have been using a number of these ventilation-racks, and like them very much.

## Age of Larvae for Queen-Rearing.

I notice on page 757, you use the following language: "You will be told by some good bee-keepers, and intelligent, that bees will be in such a hurry to rear a young queen that they will select larvae too old for best success." Then a few lines further on you say, "I do not at all believe they [those bee-keepers] are correct."

I am in no sense a queen-breeder whose opinion is entitled to any great respect, but I rear my own queens, and in that connection I wish to give you the result of the only experiment I ever made along that line. Last summer, in transferring larvae from the comb to the cell-cups, I purposely selected one that I thought was too old. I put the frame con-

taining about 20 cell-cups with larvae into a colony that had been queenless over a week.

I did not mark the cup into which I placed the old larva, because I did not for a moment believe it would be accepted. A large proportion of the cells were accepted and among them the one containing the old larva. I introduced the ripe cells and a few days after I looked through the colonies to see if the queens were laying. They were all doing well but one.

This was a very odd-looking bee. She was plainly not a worker, yet she did not look like the other queens. Her abdomen was short, but at the same time somewhat elongated. The bee, I should judge, was fully 30 percent larger than the workers. There was no mistake about her being the queen I had introduced in the cell, because she was reared from a Banat mother, while my stock were hybrids of a very dusky hue. Evidently this queen had not mated, as during the four weeks I kept her, there was not an egg in the hive. On picking up the supposed queen, she tried to use her sting. She never failed to fight as wickedly as a worker except she made no attempt to fly.

Now, I assumed that that queen was the product of the old larva I had selected. I have regretted ever since that I did not mark the cell base; then I could have traced her. I do not believe the nurse-bees neglected to feed one larva as well as they did the others, for the other queens were as fine, large and vigorous as any I ever saw. I call them my "camelback" queens, because their ovaries are so well developed that the abdomen carries a hump. I think the most reasonable conclusion is that the bees fed all of the larvae alike, and that the only way to account for the freak is from the fact that the larva from which she was grown was a little too old.

Bees may not select a larva that is too old, but I believe they sometimes accept one that is. And where as many as 20 are provided, it looks to me as if it practically amounts to selecting it, if they accept one that is too old.

KANSAS.

ANSWER.—My good friend, there is no controversy whatever between us except as to what is contained in your last sentence. In the sentence preceding it you say you believe bees sometimes accept a larva that is too old. Not only do I believe they sometimes do, but that they frequently do so, where man interferes. Unqueen a colony, and the bees will select a larva of proper age from which to rear a queen. Not only one, but they will select several, as they seem to provide against emergencies, and this same spirit makes them start other cells later on, when no larva sufficiently young is present, and they are forced to accept those too old. No harm will come from this if the bees are left entirely to themselves, as these too-old larvae will hatch later than the better ones, and be destroyed by them. But harm will result if the bee-keeper should take any of these objectionable cells and use them.

But when you say, "And where as many as 20 are provided, it looks to me as if it practically amounts to selecting it if they accept one that is too old," you will pardon me for saying that it doesn't look that way to me. For a larva put into a queen-cell cup, whether the cup be natural or artificial, is a very different thing from the same larva in its original worker-cell. This is very plainly shown by the fact that a much larger percent of larvae in such cups are accepted, as compared with those in worker-cells. Provide 20 cells with larvae, and you are having poor success if 50 percent of them are not accepted, while not one in a thousand of the larvae in worker-cells will be chosen for royalty. Very likely you will say, "But of those 20 cells, a number were rejected that had larvae very young, while one with a too-old larva was accepted." Quite true, but the age of the larva had nothing to do with that. Bees are fastidious little creatures, and although you may think you have treated all cells exactly alike, they take exception to something in a cell that to you seems all right, and will have nothing to do with it, no matter how young the larva.

All the same, thanks are due for the interesting story of the case reported.

## Number of Colonies for the Field— Value of Box-Hive Colonies— Transferring, Etc.

1. I have 6 colonies of bees on the Ohio river. The principal honey-flow there comes late in the season from weeds that grow along the river and in the cornfields along the river bottoms. The strip of bottom-land given over almost entirely to corn-raising is about 2 miles wide. Last season my 6 colonies gave me 428 pounds of honey. How many colonies could you have there and secure as good an average (71 lbs.) as this?

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2. There are two bee-keepers within about 8 miles of my place who have several colonies in box-hives which they want to sell. What would be a fair price for me to pay per colony for them?

3. In transferring would it be all right to let each colony swarm once, remove the old hive from the old stand and let it go until the honey-flow starts, then place it beside the new hive on the old stand with a bee-escape on its entrance, and thus run the bees from the old hive into the new one?

4. My apiary will be on the south side of a large hill. I expect to run for comb honey. If the colonies are left without shade would the crop of honey be likely to be shorter than it would be if shade were provided?

5. The queen in one colony this season slacked up on egg-laying in July. Previous to this she did very well, having filled 14 Danzenbaker frames in 21 days. About the first of August she commenced laying again as before. There was some honey in both brood-chamber and super. Why did she slow up on egg-laying? If a detriment can such conduct be prevented?

DISTRICT OF COLUMBIA.

ANSWERS.—1. That's a very hard question. Let us suppose that the principal honey-plant in the case is heartsease—a very supposable thing. It will especially flourish in a wet season, although it may do more or less every year. The principal matter of uncertainty in the case, however, is the amount of it. It may be so little in amount that those 6 colonies were able to take care of all the blossoms in reach, and if you had had 7 colonies your surplus would have been reduced. That, however, is not likely to be the case, and as guessing is the only thing that can be done, my guess is that 50 colonies will give you more surplus than a smaller number, and possibly 75 to 100.

2. That's one of the things that depends upon "locality," and you can find out only by inquiring what prices have been customary. Possibly it may be only \$2 or \$3 per colony; possibly \$5.

3. Yes, with some modification. When the colony swarms, put the swarm in its new hive on the old stand, and put the old hive close beside it. A week later, move the old hive to the other side of the new one. Two weeks later still (3 weeks after hiving the swarm), cut up the old hive and brush all the bees into the hive with the swarm. Then you can melt up the combs, although it may be well first to set the combs off some 3 or more rods until the bees have robbed out all the honey.

4. The matter of shade will probably have very little effect on the crop.

5. There may be more than one answer to the question. You say she filled 14 frames in 21 days. Now suppose that in the first part of that 21 days she began laying lightly, gradually increasing throughout the whole time, at the end of that time having the frames entirely filled with either brood or honey. Don't you see that she could find vacant cells in which to lay, only as cells were emptied by the emerging of young bees proceeding from eggs laid 3 weeks before? So you see that she would be obliged to slow up so as to lay no faster than she did at the beginning of the 3 weeks. It may also be that a heavy flow of honey may have made the difference, for it often happens that when a heavy flow occurs the bees seem to turn their attention almost entirely to storing, to the neglect of brood-rearing. A remedy is hardly needed.



## Requeening—Reading Bee Literature.

I see through the columns of the American Bee Journal that a great number of bee-keepers practise requeening every few years. I just wish to say that if all had had the same experience that I have had, there would be but little requeening done, as I have tried several times to introduce new queens, but have never yet been successful in it, and I have tried to follow very closely the instructions. I think that everyone who keeps bees should read the American Bee Journal or some other bee-paper, for it comes in so handy. I consider it worth more than any other paper that costs twice as much, for when you are at your wits' end, then pick up the American Bee Journal and your trouble is over, for you can always find

just what you want in the columns of it. I have some bee-books, such as "A B C of Bee-Culture," but I find the American Bee Journal the best of them all, for it is up-to-date. I feel that I can not say too much for it.

H. W. GAMBLE.

Golden City, Mo., Dec. 19.

## Good Results from Nuclei.

I had 14 colonies in the spring, but was compelled to double them up to save them. I made 8 good ones the last of April, and the latter part of May I placed them back in the same number (14), and requeened. I have 3 colonies in 24-frame hives; that is, 3 bodies of 8 frames each. Each was started on 3 frames of brood and bees and empty combs in June, and each turned out about 50 sections of honey. They are very strong, having fully 60 pounds or more of honey for winter. I call them my 3 warm numbers, and shall take some queens from them in the spring. I have 2 colonies of Caucasians, but shall keep only one hereafter.

C. B. PALMER.

Bradshaw, Nebr., Dec. 16.

## Poor Season for Bees.

We had a very cold, wet summer, and the bees did little or no good until the buckwheat time. I turned my attention to rearing bees, and now have 18 colonies all in fine shape, with plenty of stores. I am hoping to be able to report a good crop of honey next season. I have one out-apiary of 4 colonies, and expect to start 2 more in the spring. We have street-cars running out 6 to 10 miles into the country, thus giving me a chance to attend to out-colonies.

H. S. BUCHANAN.

Indiana, Pa., Dec. 16.

## Why Bees Don't Do Well.

The bees were in good shape here when the honey season closed, September 15, but the weather still continues warm and the bees are flying out almost every day. Lots of them are still rearing brood, caused from the fact that they have continued to gather pollen up to the present time. They are using up lots of stores; are getting lighter every day, and with those who never feed nor care for their bees, if this weather continues there will be a great loss next spring, and those colonies that do pull through will be so weak that they will hardly do anything all summer. And there will be lots of bee-keepers who will wonder why their bees did not do as well as some other people's bees!

J. W. FERGUSON.

Pierce City, Mo., Dec. 2, 1907.

## Queer Things Bees Do.

Speaking of the freakish things that bees do, if we would watch them very closely, we would find out that bees do things that would astonish us. During the past season I had one colony of bees that were infected with moth—so bad a case that I had to give them a new hive, and new outfit, honey and all. I took frames from extracting supers that were heavy with honey, and fitted them up very snugly. It is natural for bees to want to rob when anything of this kind occurs, and they did come around thick and fast, so much so that I had to contract the entrance so it was possible for only one bee to pass at a time. I had nothing to do but to watch them. I found that once in a while a robber-bee would creep in, and if it managed to get its load, it was held up at the entrance by 2 bees, while one bee made it give up the honey. They pumped it out of the robber-bee, then let it go.

Now I expect there is more than one bee-keeper who will criticize this statement, but it is just what we would do under similar circumstances if we had the help. There are a great many queer things that bees do.

Dawson, Ill., Dec. 20.

S. T. CRIM.

## Sowing Alsike for Honey.

The farmers are sowing alsike clover, which does very well here and the bees work well on it. It makes our best honey. My bees are all in good shape, and if the prospects hold out, we will have a good crop next year.

D. A. FINKENBINDER.

Stockton, Ill., Dec. 23.

## A Very Short Honey Crop.

My bees came out all right last spring. I lost one colony the latter part of August. I had 11 swarms, which built up very slowly, but finally gathered stores to take them through the winter. There appeared to be abundance of white clover, but the bees did not work it very strong. They barely got a living till black-heart bloomed, and that did not yield much till late. The Illinois River being out of its banks almost the entire sum-

mer, the wild cucumbers had no show at all, and the Spanish-needles were but few, so my honey crop was about 1-5 of what it was last year. Some bee-keepers got only about 1-10 of last year's yield.

GEO. B. SLACK.

Mapleton, Ill., Dec. 20.

## Half a Crop—Two Queens in One Hive.

The crop here in Missouri was not one-half a crop. I fed over 700 pounds of sugar to my bees for winter stores, extracting everything above the brood.

I found 2 queens in several hives this fall—mother and daughter. Some were above excluders and some together. Both always laying, but when left together after the flow one always disappeared. I have saved some to test next year.

IRVING LONG.

Marceline, Mo., Dec. 18.

## Late Mating of Queens.

In the fall of 1906 I put my 4-year-old queen in the cellar. March 20, I put the bees out, and I was anxious to see if she were alive. On opening the hive I found a young queen just emerging from its cell. I caught her and put her in a spiral cage. Then I sent for a laying queen, and waited for 30 days, but no queen came. So I released the virgin queen in time. She was mated, and was as prolific a queen as ever was in a hive. In time she cast an extra large swarm.

Now this does away with some of the theories that have been advanced. I had a in the spring of 1905, but they were no good. It was about 6 weeks before the queens were mated.

DeKalb, Ill., Dec. 18.

WM. MARSHALL.

## A Queer Season.

We have had one of the queerest seasons I have seen since I began keeping bees. The bees came out fine in the spring and gathered quite freely from fruit-bloom, and later on the country was pure white with clover, but not a bee visited it. There was lots of other bloom—more than I ever saw before—but not a drop of nectar in it. We had more days of good weather than usual in this locality, but in spite of this no honey worth speaking of was gathered.

O. K. RICE.

Grays River, Wash., Dec. 20.

## Pays to Feed Bees for Winter.

I bought 8 colonies of bees last winter, and secured 24 pounds of section honey to the colony during the season. I took only one super from each colony. We had a very bad drouth last summer, and bees did not do very well. I have 5 colonies that did not swarm during the whole summer; and 2 colonies that swarmed 3 times each. The ones that did not swarm are in better condition than those that did swarm. They refilled their super. The last swarms that came off did not make much of anything, but I gave them empty combs and fed them syrup in September and October, and I think they will get through the winter. I may have to feed them in the early spring. I did last spring in April. One of my neighbors lost several colonies in April last year by not feeding. They worked in March, and he thought they were all right, but it stayed cold through April and part of May, and they starved.

JOHN DETHEROW.

Springfield, Mo., Dec. 16.

## Fine Crop of Fall Honey.

We failed to get a spring honey-flow in 1907. July 1 there was not an ounce of honey coming in—bees out of business. July 7 some honey was coming in, but not one section of honey, so the bees and myself went out of business at that time; but in the fall we renewed business and secured a fine crop of fall honey. If not a large crop, it was fine honey, most of which I have sold at 15 cents per section.

The bees are in excellent condition for winter. I have wintered my bees in the cellar the past 3 years, and have not lost one colony yet. I have a dirt floor and let them stand out until it gets very cold, then I carry them into the cellar.

F. MCBRIDE.

McGuffy, Ohio, Dec. 16.

## Wintering Bees in Out-Yards.

I put 183 colonies of bees into the cellar Monday, Dec. 2, and all indicate chances of wintering. Mr. Thomas W. Chantry spent 3 days with me last week, and we fixed up 2 colonies of bees for experiment, as follows:

We made the entrance-board even with the front of the hive so that snow can not clog the same, and contracted it to about 4 x 3/4 inches. Three or four thicknesses of news-



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papers were put over the cover and down the sides, folded and tied; over this a piece of carpet; and over all tar-paper, and we folded down the sides and ends, and fastened it on with pieces of lath. We left honey enough to last until fruit-bloom. The covers are not to be touched until then. The object sought is to see if bees in an out-yard can not be fixed up early in the fall after the surplus honey has been removed, and not seen again until late spring, except perhaps to remove such colonies as have died during the winter. On these 2 I place a shallow-frame super of extracting combs of honey, to insure enough and to spare of feed, and a place to store any honey that might need to be removed from the brood-chamber to make room for brood in late spring.

If bees can be wintered well and safe in this way, out-yards can be run if need be, several hundred miles from home, with but little or no attention from September to May, or probably till June.

F. W. HALL.

Hull, Iowa, October 4.

## More in Regard to Bee-Scouts.

In the spring of 1907 I nailed a box inside the hen-house, with a bit-hole for an entrance, to feed a weak colony a few feet away. June 4, about noon, I discovered several hundred bees at work in the box. There had been no feed there for 3 weeks. I could not account for the sudden appearance of bees. They made a peculiar, snappy noise inside the box, like dropping tacks on parchment. There were about 100 bees hovering one foot from the entrance. In about 10 minutes I looked outside and every bee was gone, and while I was trying to solve the mystery, I heard a swarm in the air. They passed directly over me, hovered a while in the air, and then a bunch of 200 or 300 all at once settled right down before the entrance of this box, and the mystery was solved. In 10 minutes there was a cluster under the eaves about 2 feet from the bit-hole, as big as a peck measure. Then they began to "streak it" on foot for the entrance. They were in this box 36 hours before they were taken out and hived. They had built 4 combs 6 to 8 inches wide, and every cell of suitable depth had an egg properly placed.

M. E. SHATTUCK.

## Some Bee-Keeping Fads.

After an experience of 25 years with keeping from 20 to 50 colonies, I am not a novice, yet must confess that when I meet with experts and producers of honey who calculate tons and car-loads, running autos from yard to yard, using 6-comb extractors with gasoline power, the ordinary bee-keeper cuts no figure, and may be counted among the "has-beens."

Being one of the conservative Dutch referred to by Prof. Surface at the Harrisburg meeting, I am slow to adopt new ideas, yet the temptation seems irresistible sometimes, not to try some of the advanced cult. I have paid several dollars to try the dual-queen system with excluders between, to learn that the bees are not educated, possessing too much of their natural instinct, to tolerate 2 queens in a colony. Just how they disposed of the ones in the second story is unknown, but that they were missing shortly after being introduced, is a fact. While I had instances when 2 queens were together in the brood-chamber for a little while, it is a matter of rare occurrence.

As for offering warm water to the bees, when the weather is cool, or at any time, seems absurd, as the water would soon cool to the temperature of the air, in which event they could get it from other sources, unless it were in a rainless district where they could not find any wells to enter. Having a small stream of pure water close to the yard, with sand and gravel deposits, where the seepage provides a constant supply, they can get what they need at all times when the weather is warm enough for them to seek it.

A few years ago it was advocated to water cattle with warm water. We hear nothing more about it; so it will be with bees, is my opinion.

The bees are kept on the farm for pleasure and profit, as it is difficult to get entirely rid of "beepophobia" when once affected, and the gain from honey-sales and increased berry and fruit crops is compensating. This section does not afford any very great rush season, but a steady supply ending with golden-rod and asters late in September, so we get considerable dark honey, besides that from buckwheat, of superior flavor, something that tastes good on griddle-cakes.

Now I have a chance (which is submitted to you confidentially) to make more out of the bees, although it seems cruel to sacrifice them to cure rheumatism. Having a good

location, ample room, and bees warranted to sting equal to any, the plan is to establish a "Sanitarium for Rheumatics." Besides the ordinary honey-bees, we have also a variety of bumble bees, yellow jackets, and hornets, that might be cultivated, and it would seem less cruel to use these, since they would not suffer any from continued use, while the honey-bee would perish with one application.

Perhaps others in the business might wish to engage in this enterprise, and it might be well to form some sort of association, corporation, combination, or trust, and fix a price for one injection—say 10 or 25 cents, according to the strain; those from hundred-dollar queens being necessarily more valuable. From earlier experiences I should think the hornets most effective.

W. H. SROUT.

Pine Grove, Pa., Dec. 17.

## Very Poor Season.

My report for the season of 1907 looks bad. Spring dwindling affected the bees badly. Our location is very high and windy. Bees would warm up and start out for nectar, get chilled, and perish. My finest Italians fared the worst. I am a farmer bee-keeper, but use modern hives, winter in a good cellar, and feed and protect my bees.

In the fall of 1906 I put 40 colonies into the cellar, and in the spring of 1907 I took out 38. I lost 20 by spring dwindling. I had no swarms up to July 1, 1907, and only one issued afterward. I fed the bees with good sugar syrup right along in top-feeders.

I use standard Hoffman frames and dove-tailed hives. My extracting frames are the same size as the brood-frames.

Westfield, Wis., Dec. 21.

W. D. BARNES.

## No Snow Yet—Moth-Worms.

I had 30 colonies spring count. Three were poor. Moth-worms got in before I discovered them. I did not get them built up in time for the clover harvest, which is all we have here. This is my third year in the bee-business.

We have had no snow yet. The ground is very dry. It is hard to tell what the outlook will be for clover.

L. F. CHURCH.

Clear Lake, Wis., Dec. 22.

## Feeding Sugar Candy in the Cellar.

I will give you my plan of feeding sugar candy to my bees, which are always in the cellar, when it is necessary.

I take a  $\frac{3}{8}$ -inch board and cut it the same size as a brood-frame. To make the projection to rest upon the hive rabbits, either nail a narrow strip the length of a top-bar, or leave the ends projecting in the cutting-board. Then I take  $\frac{1}{2}$ -inch, or  $\frac{3}{8}$ -inch lumber and cut into strips about  $\frac{3}{4}$ -inch wide, of the same length as the  $\frac{3}{8}$ -inch blank board. Bevel the edges of the strips and nail the narrow edges to the blank board about  $\frac{3}{8}$ -inch apart at the top side. This makes a grooved frame, and I pour into these grooves the hot sugar-candy I have made. By removing an empty brood-frame from the hive and dividing the cluster, I put my sugar-frame in the center of the cluster while yet warm to the hand. The bees will quickly cover the warm frame, and do not seem to mind the disturbance.

I have used this method with good success, but I don't know if it is worth much to any one else, and can not say anything about its being of any use in out-door wintering of bees.

B. W. DENNIS.

Lake Preston, S. Dak., Dec. 30.

## Few Bees Left in County.

In this county out of one apiary of 60 colonies, only 5 are left; out of one of 13 colonies, 2 are left; out of one of 4, none are left, and I do not think that 20 percent of all the bees in the county are left. This is due mostly to the cold summer and fall. A great many colonies will go yet, as brood-rearing stopped in August and nothing but old bees are left in those apiaries where no feeding has been done. I fed mine and have a lot of young bees.

Cologne, Minn., Nov. 29.

H. LUEDLOFF.

## Poorest Season in His Experience.

The following is the report of some of my neighbors:

Mr. Cook had 27 good colonies in the spring and secured between 300 and 400 pounds of honey which he sold for 14 cents per pound.

Mr. Moore, 4 miles from here, had 40 colonies spring count, and did not secure 100 pounds of good, salable honey.

Mr. Hoyer had 9 colonies in the fall of 1906; had 3 in 1907. Secured no honey.

Honey in general was a failure. I fed my bees last March and April, and they were in good working condition when the season

opened, but it was the poorest season I have experienced in 33 years. The persons above mentioned have never taken a bee-paper or read a bee-book. I have repeatedly tried to get them to do so, but without success.

There are quite a few small bee-keepers around here, but I think most of them will be out of business in the spring.

I always sell my honey in Grand Rapids before the holidays to jobbers. I use  $\frac{1}{4}$ -inch sections. I have my regular customers and always try to give them a good, well-ripened and nice-looking honey, with every section stamped so that the customer knows where and whom it is from.

Caledonia, Mich.

MOSES BECHTEL.

## Bees Did Fairly Well.

The honey-yield in this locality was fair, considering the backward spring. I began in the spring with one colony. The first of June I bought 5 more. All were weak with bees and out of stores. The moths were in one of these, and in that one the combs were tied together so that I couldn't see after them.

From 3 colonies I took about 100 pounds of honey. One of the others had a queen of no account, so replaced her with one that I sent away for, and I think all are in good condition for winter.

W. H. McDANIEL.

Deport, Tex., Dec. 21.

## Bees Neglected, but Fixed Up.

I put some bees in the cellar Dec. 13, and packed 20 outside. They are all in fine shape but 7, which are light. Some were nuclei that we started but failed to give proper attention, but we are in hopes to pull them through, for there are some choice queens among them. The bees were in good shape the last of March, when I left them, but shortly after, my family were taken down with the smallpox and they had a time of it, with a hundred ewes and over 50 head of cattle and horses, and so something had to suffer. I came home June 21st, and found the bees in bad shape, and a crosser bunch I never was in. Some of the entrance-guards were out, and robbing was going on in general, but I soon had them straightened out, with 15 less colonies, and several very weak. But the balance were in grand shape.

C. A. FAIRBANKS.

Anamosa, Iowa, Dec. 17.

## Poorest Season in 37 Years.

The honey crop of 1907 was the poorest in my 37 years of keeping bees, as from about 65 colonies of bees I could take only about 200 pounds of extracted honey from some top stores, while most of the bees go into winter with a rather scant supply of honey. For those who keep a goodly number of bees, it will be well to follow our good teacher—Mr. Dadant's way of having out-apiaries in different locations, as I find that if one location is poor in one season, some other location may be fairly good. The cause of our crop resulted from the 6 weeks' winter when we should have spring, consequently the bees could not breed up in time for the white clover bloom, which was rather poor, too.

M. ZAHNER.

Lenexa, Kans., Dec. 24.

## Watering Bees in Winter.

I see so many lose their bees through the winter, and are unable to give the cause. I will say that some 30 years ago, while living in Iowa, where bees were wintered in the cellar, there was always a loss until the bees were given water. After this method was practised, I do not recollect ever losing a colony of bees that went into winter quarters with plenty of stores, but they all came out in good shape. We had the gable cover on our hives and a heavy blanket. There was a hole cut through the covering and a sponge full of water placed over the hole, where the bees all came to the water. This sponge we would wet about every month. I always left the entrance wide open with only a screen over it to prevent the bees from escaping. I would like to hear through the American Bee Journal from those who may try the above, and to know the results.

CALIFORNIA.

## Parcels Post and Bee-Keepers.

I note an article in the December American Bee Journal regarding the parcels post. It is certainly not a fair law, when one can send a package to almost any part of Europe for 12 cents per pound, while to send the same package to New York it will cost 16 cents per pound.

The Post-Master General, desirous of correcting this injustice, recommends a change in the law; but as the passage of such law

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might somewhat curtail the profits of the express companies, it, of course, will be strongly opposed. Also country merchants think they see a bugbear in the mail-order houses, and have organized to fight the bill.

Now the mail-order houses have come to stay, unless they are met by better methods than fighting the parcels-post bill.

The parcels post will cut small figure in the mail-order business, for the reason that that business will always be mainly by freight, as freight-rates will always be very much cheaper than any rate can be made by mail.

You say, "The Post-Master-General has the best wishes of the people." Has he? If he has, let them strengthen his hands by writing to their Senators and Representatives, asking for the passage of the Parcels Post Bill. Whenever the members of Congress are satisfied that the people want the law, they will get it. A Congressman told me he was opposed to the bill. I asked him why. He replied that he had many letters from country merchants and commercial travelers objecting to the bill, and hardly any in its favor. The fact is that the many needing and wanting the bill are the farmer and the artisan who do not take so active a part in the business of the country—not so active as they should.

Now, if you want the parcels post, let your wants be known. Write your Senators and Representatives at once, and if this session of Congress does not pass the bill, keep it up in the next session, and we will get it.

Clayton, Ill., Dec. 25.

S. N. BLACK.

## Nucleus Method of Making Increase.

I will let some experimenting bee-keepers know how I make swarms in the spring. I go to the strongest colonies, and take 3 frames of brood and eggs, and hang them in a new hive, and hang 2 frames of honey, one on each side of the 3 frames of brood, and let them hatch their own queen. I hang 3 frames of combs in the parent hive again, and about 10 days afterward I take 2 of those frames out again and give them to the nucleus. I have had great success in that way of making swarms. I made 3 of those swarms about the last part of May, and they are all 3 good, strong colonies, with plenty of honey for winter; and as for the parent colonies, one swarmed and 2 didn't. The 2 that didn't filled 72 sections of comb honey each.

LaMotte, Iowa, Dec. 23. NICK JENTGEN.

## Clovers for Honey and Hay.

This has been one of the poorest years for honey in the history of bee-keeping in this vicinity. We had no honey to speak of. The bees went into winter quarters in fairly good shape. The winter so far has been very mild and dry, and could not have been better for out-door wintering. Most of my bees are just on the stands as they were in the summer. Alsike and sweet clover seem to be the best of anything we have for bees. Of course, white clover is good, but not better than alsike, and perhaps not nearly so good, in this place at least, and then the alsike makes the very best hay of any of the clover family. Mix alsike with timothy and for hay nothing is nearly as good in this country.

And then sweet clover, that some people call a noxious weed, is a very valuable plant. There is nothing that yields more honey than it does, but as yet it has not been used for hay. However, cattle eat it when green, quite readily, and it would bear cutting two or three times a year. It is also a great fertilizer, having large, long roots, and the growth is so dense that nothing else can grow where it is. If you want to get rid of it, plow it under when about 6 inches high and plant corn, potatoes, or some other crop on the land, and the job is done.

Menlo, Iowa, Dec. 24.

O. P. MILLER.

## Some Bee-Keeping Experiences.

I began bee-keeping 4 years ago by capturing a "honey queen." That is, I took unto myself a wife. My mother-in-law gave us 3 colonies of bees in old 8-frame Langstroth hives. I did not know much about bee-keeping at that time, although my wife had worked with bees ever since she was large enough to work a bee-smoker.

I transferred the bees into 10-frame dove-tailed hives, using the plain 4¼ section. The first season I had one colony that gave me 106 pounds of fancy honey, which I sold. My sales of honey for that year amounted to \$18. My sales of honey for every year have given me a good profit on my investment.

In 1907 I had 10 colonies. The spring was cold and bad for bees. I fed some sugar syrup until the clover began to bloom, so I had plenty of "harvest hands" when the harvest

was white. I put the first honey on the market that was sold in this vicinity this season. I peddle almost all of my honey, selling it direct to the consumers. I have learned a few things and have had some rather queer experiences in disposing of my honey crop in this way, and I may tell some time about selling honey that way.

I kept no account of the number of pounds of honey that I produced. I kept a record of my sales, which amounted to \$91.64. fancy honey selling for 15 cents a pound, and No. 1 for 12½ cents.

I kept my bees from swarming by cutting queen-cells, giving room, ventilation, and shade. I made some mistakes that cost me money, but I will try not to make the same blunders again. I caught and bought 9 swarms. I didn't make any increase, but united the swarms with the weakest colonies. I reared a few queens from my best bees, and requeened the poorest colonies with them. I bought 4 colonies of bees at a public sale this fall for \$2.25 per colony, as bees are generally a poor sale, seldom bringing the cost of the hive.

There are no expert bee-keepers in this country. Almost every one keeps a few bees to produce honey for his own use, although this is a fair bee-country, with tons of honey going to waste for want of bees to gather it. There are no extractors used, and the majority of people don't know what extracted honey is; and it would take some energy and push to work up an extracted honey market.

D. B. KINNISON.

David City, Nebr., Dec. 26.

## Worked for Increase—Bee-Tree—Plan for Requeening.

In the fall of 1906 I had 4 colonies. In the spring of 1907 I had 3 colonies. I worked mostly for increase, so my honey crop was only about 200 pounds of comb honey. What honey I did sell, I sold at 15 cents per pound. This fall I had 11 colonies. As I did more increasing than was profitable, considering the season, some colonies were light.

As to honey-plants, I would say that, in my opinion, the alsike clover is getting a better hold, I think, in this vicinity. We always have a good flow of white clover honey.

I will relate a little of my experience of the other day. My brother and myself had taken the job of cutting down some trees for some neighbors. When we had one tree cut down, I happened to walk around the top, and heard the buzzing of some bees. On closer observation we found that quite a large colony of bees were in the tree.

I have 3 colonies with pure queens. I would like a simple plan for requeening those others without buying queens.

WALTER M. ADEMA.

Berlin, Mich., Dec. 29.

[Perhaps Dr. Miller will furnish the "simple plan" requested.—EDITOR.]

## Results of the Past Season.

In 1905 I bought a standard-bred queen. In 1906 she did no good, nor did any of my other bees, but I want to tell you what she did under the bad conditions we had here last spring. In January, February, and March, it was fine, warm weather, and the bees were breeding and building up fast, and had lots of brood and were doing fine, when April came with the cold weather and caught the poor bees hovering their young, and you know how game they are. They stuck to their young and died in the act of protecting them. So I lost 30 percent of my bees with the cold spell last April. Hence you see that my bees were in bad shape. Then we had too much wet weather for white clover, so we had no show for any kind of honey crop.

Now the standard queen I had bought, as I said above, outlived all the bee-work I have seen while working with bees for over 20 years.

Last spring was wet and there were no signs of any honey up to June 15, so I could see no signs of any swarms. On the 16th, I said to my wife that I would go to town as there were no bees going to swarm. At 10 o'clock my standard queen came off with a very large swarm and settled in a small cedar tree, and were still hanging on the tree when I came home, too late to have them.

In having them I took out 4 frames of brood and put them in a 10-frame hive with one queen-cell and 2 empty frames with starters. Then I took 2 more frames and put them in a 10-frame hive. Then I took one more frame of brood with a queen-cell and put it in a 10-frame hive. So you see I had taken out 7 frames from my standard queen, leaving 3. I filled the hive with frames with starters, and by the middle of July the hive was full of

brood and honey. So I took out the old queen with one frame of brood and put her in a 10-frame hive, putting in also a frame of honey and an empty frame. Now, of course, the bees went to work rearing queens, and when the cells were ripe I had a nice lot of young queens that I made good use of.

Now I want to tell you what those young queens did—that is, the first hatch of them. I know what I am about to state is absolutely true. We will call the 4-frame hive No. 1. That young queen filled her hive chock-full in little or no time, as we had an early fall run of honey and it came in very fast, but a very early frost cut it off suddenly. To my amazement I got 95 pounds of surplus honey from No. 1. No. 2 with the 2 frames filled her hive full and gave me 40 pounds of honey. No. 3 with the one frame of brood filled her hive full, and I had put on a super and they had just commenced to work in the super when the frost came.

Now, you can have no idea what I think of those bees, for in 1901 I had a colony that gave me 251 pounds, and I thought that that was a great thing, but that was nothing to compare with this, as 1901 was a boomer for honey, and this year was a failure, we may say, for I did not get over 600 pounds of honey, and this is the record of the first lot of queens from the swarm. I will tell about the last lot of queens later. They did well; not one of them mated, and had more honey in their hives than they can consume this winter.

GEORGE SAGE.

Linton, Ind., Dec. 23.

## Handling Bees in the City.

I have been handling bees for the last 25 years. The first start I got was by catching a run-away swarm. I have never had over to colonies at one time, because I did not have room for them. I reside in a city which has a population of about 80,000 inhabitants, and I keep my bees in a small yard in the rear of my house. I have never had one word of complaint from my neighbors about them and I'll tell you that sometimes they make things pretty lively around this small yard. You can imagine that they must do some flying when one black colony stored about 170 pounds of comb honey. Don't let me hear anybody say that those black bees are not hustlers, if they are managed right, and at the proper time. I also have one colony of Italians and 2 of Carniolans, but they did not store any honey, as they were only nuclei in August, but I manipulated them in this short time so that they went into winter quarters on 8 frames, and at this writing they appear to be in the best of spirits.

I make all my hives by hand, and up to this date I have 25 hand-made hives. Quite a few of our bee-keepers think that bees will not store as much honey in a hand-made hive as they will in a nice, machine-made hive. Yes, I must say right here that a friend of mine who lives only a short distance away, buys all his hives, etc., and yet he averaged only about 30 pounds per colony. This goes to show that the hive is not the important question in the production of honey. It is how you manipulate the bees. I claim that this, and this alone, is one of the most important steps in bee-keeping. If you have an apiary you must study every colony and make yourself familiar with the conditions of the inside of every hive; you must know the exact age of your queen; whether she is doing her duty; whether there is plenty of brood hatching in the proper time; if there are plenty of bees in the hive; whether there is too much drone-comb or too many useless drones. Those are a few of the many things which the apiarist must acquaint himself with, and must remedy them at once if he wishes to reap any profits from the sale of honey. The coming spring I intend to start an apiary in Rensselaer county. I have planned and arranged this in such a way that I will have everything very convenient.

WM. J. HAYES.

Lansingburg, N. Y., Dec. 27.

## Honey-Plants — Fall-Built Comb — Short Fences a Drawback.

Our honey-source is elm and maple in spring, white clover in summer, the small goldenrod and the white aster in the fall. Of course there are other honey-plants, but these are the main ones.

The bees do not gather any honey from the large goldenrod. It is the first to bloom here. The small or dwarf kind commences to bloom as the large is drying up. The goldenrod is our first fall honey-plant to give any honey to amount to anything. It is of poor flavor and dark in color.

The white aster is next in order when frost does not come too soon. A light frost does not stop the honey being secreted in the



flowers if it happens during dry weather. Otherwise, it is entirely ruined until new flowers bloom. The honey from this plant is almost as light in color as clover.

There is a blue flower of the same family here, but so far as I can see the bees gather no honey from it but do gather some pollen.

The comb in fall sections is much more heavily or strongly built, the walls of the cells being thicker. The comb also has more of a brown or yellow look than comb made earlier in the season.

I believe this will be a help to some bee-keepers. At least it was to me. The fence being too short to fill the space in the super they jar apart the sections. I use the plain section  $4\frac{1}{4} \times 4\frac{1}{4} \times 1\frac{1}{2}$ , but do not use the thin-end section-holder. I use a section-holder with ends thicker so that they lack only  $\frac{1}{8}$ -inch of filling all the end space; and make the ends of the fence the same width of the end-pieces on the section-holder. I do not have to use a piece at the end of the fence and section-holder. This is a big help where, in the hands of careless people, the pieces at the ends are left out, as that lets the sections spring and warp out of shape, and up against the top, to be fastened there by the bees, so when the top is taken off it pulls the top off of the sections.

Another great drawback is that half the bee-keepers do not use a sufficient amount of foundation, some none at all. And still another is the home-made hive. Very few of them have frames of standard size, then the bee-space is not enough, or is too much, and this causes brace-combs and discouragement to the bee-keeper.

W. A. SWEARINGEN.  
Epworth, Ky., Dec. 25.

### Getting New Subscribers

This should be a good time to get new subscribers for the American Bee Journal. On another page we offer a number of premiums for such work. We hope that as many of our present readers as possible will help us to increase our subscription list. The more intelligent bee-keepers are, the better it will be for all interested in the business. And much of that intelligence is secured by reading. We will be pleased to send free sample copies on request. Shall we not be favored with a large increase of new subscriptions during the next 2 or 3 months?



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## Honey and Beeswax

CHICAGO, Jan. 2.—The market is dull, with sales of choice white comb at 17c, off grades from 1 to 3c less, and amber grades uncalled for. Extracted, 8 to 9c for white, with ambers and dark 6 to 7c. Beeswax, 28c. All sales are of small volume, with this season of the year usually dull.

R. A. BURNETT & Co.

KANSAS CITY, Jan. 2.—The demand for comb and extracted honey is very light and the supply fair. We quote: No. 1 white comb, 24-section cases, \$3.25; No. 2 and amber, \$3.00; extracted, white, per pound, 8c; amber, 7 1/2c. Beeswax, 25c.

C. C. CLEMONS & Co.

INDIANAPOLIS, Jan. 1.—Demand for comb honey is unusually slow, while best grades of extracted honey are in fair demand. Jobbers are offering the following prices delivered here: No. 1 and fancy white comb 16 to 17c, net weight. Extracted, white clover, 9 to 10c. Beeswax, 28c cash, or 30c in exchange for merchandise.

WALTER S. POWDER.

TOLEDO, Dec. 31.—Owing to the condition in the money market, the market on comb honey is very quiet, and prices have declined considerably, owing to the light demand for all grades of honey. Fancy white comb is selling at from 16 to 17c, No. 1 15 and 16c, with no demand for lower grades. Extracted, in cans, water-white, brings 9 1/2 to 10c; amber, 8 1/2 to 9c. Beeswax, 26 to 28c.

GRIGGS BROS. & NICHOLS Co.

CINCINNATI, Dec. 31.—The market on comb honey is very slow and quiet. No. 1 is selling, in a retail way, for white clover from 16 to 17c. Colorado alfalfa from \$3.75 to \$4.00 per case of 24 sections. Water-white extracted honey, sage and clover in good demand, ranging from 9 to 10c. Amber extracted, in barrels, slow from 6 to 6 1/2c. Beeswax is slow at 32c. C. H. W. WEBER.

NEW YORK, Jan. 2.—For the past few weeks the demand for comb honey has not been very brisk, and slackened off to quite an extent. We have a fair demand for fancy and No. 1 white, while off grades and dark are rather neglected. Prices are not quite as firm, and show a downward tendency. We quote: Fancy white, 15c; No. 1 white, 14c; No. 2 and light amber, 13c; and dark and

mixed grades, 11 to 12c. Extracted is in line with comb honey. The demand is falling off considerably, and for the time being the supply is more than sufficient to meet all demands. Prices naturally are weakened somewhat, especially on lower grades. We quote: California white sage, 9 to 9 1/2c; light amber, 8 to 8 1/2c; amber, 7 to 7 1/2c. Other grades from 6 1/2 to 7c. Beeswax very quiet at 29c.

HILDRETH & SEGELKEN.

PHILADELPHIA, Jan. 1.—Sales of honey have been quite active in this market. We quote: Fancy comb honey, wholesale, 17 1/2 to 18 1/2c; No. 1 white, 16 to 17c; amber, 14 1/2c; extracted honey, water-white, 9 to 9 1/2c; amber, 8c; dark, 7 1/2c. Beeswax, 30c. We are producers of honey and do not handle on commission.

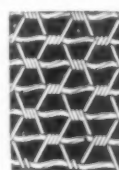
WM. A. SELSER.

DENVER, Jan. 1.—Owing to the financial situation, demand for comb honey is not as brisk as it was during the fall; however, as there is a very small stock to be disposed of yet, prices are not affected to any extent. We make the following quotation to our jobbing trade: No. 1 white, per case of 24 sections, \$3.15; No. 1 light amber, \$3.00; and No. 2 at \$2.75 to \$2.85. Demand for extracted honey is good, and we consider ourselves fortunate in having a good stock of fine quality to supply our trade. We quote strictly No. 1 white 9 to 10c; and light amber 8 to 9c per pound. We will pay 22 to 24 cents for clean yellow beeswax delivered here.

THE COLO. HONEY-PRODUCERS' ASS'N.

CINCINNATI, Jan. 2.—Owing to the unsettled condition of finances throughout the country, causing much uneasiness and anxiety among the buyers, we look forward to seeing honey reach lower values in the very near future. We are at a loss to say what prices we will ask in days hence, but at this writing we are quoting extracted amber honey in barrels at 6 to 7 1/2c; fancy white in 60-lb. cans, 10c; and strictly fancy white comb honey (which is moving slowly) at 16 1/2 to 18c, according to the quantity purchased. For choice yellow beeswax, free from dirt, 30c delivered here.

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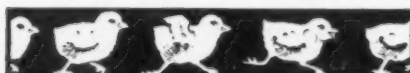
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